STANDARD

ANSI/ASHRAE Standard 169-2013

Climatic Data for Building Design Standards

See Appendix D for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

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Includes Web-based access to climatic data, design conditions, figures, and tables.
(Requires Adobe Acrobat® and Microsoft Excel®)

Approved American National Standard
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NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE Web site at www.ashrae.org/technology.

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FOREWORD

This standard was created to provide a comprehensive source of climate data for those involved in building design. The standard includes a variety of climatic information used primarily in the design, planning, and sizing of building energy systems and equipment. ASHRAE anticipates that the information within will represent a valuable resource for referencing in building design standards.

The contents of this standard have been compiled from the 2009 ASHRAE Handbook—Fundamentals*, Chapter 14, "Climatic Design Information" and from other data developed specifically for this standard in ASHRAE RP-1453, "Updating the ASHRAE Climatic Data for Design and Standards." The new data include extensive monthly design conditions.*

The data and tables have been completely revised and updated from Standard 169-2006. An additional Climate Zone 0 with humid (0A) and dry (0B) zones has been added, and the standard now includes data for 5564 locations throughout the world.

This standard is accompanied by supporting files that can be located online at www.ashrae.org/169_2013data. These files include design condition tables for the 5564 locations as well as electronic tables and climate zone maps.

1. PURPOSE

This standard provides recognized climatic data for use in building design and related equipment standards.

2. SCOPE

2.1 This standard covers climatic data used in ASHRAE standards, including dry-bulb, dew-point, and wet-bulb temperatures, enthalpy, humidity ratio, wind conditions, solar irradiation, latitude, longitude, and elevation for locations worldwide.

2.2 This standard also includes statistical data, such as mean temperatures, average temperatures, mean/median annual extremes, daily ranges, heating and cooling degree-days and degree hours, hours and seasonal percentages within ranges of temperatures, as well as bins.

3. DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

3.1 Definitions

degree-day: the difference in temperature between the outdoor mean temperature over a 24-hour period and a given base temperature. For the purposes of determining building envelope requirements, the classifications are defined as follows:

cooling degree-day base 50°F, CDD50 (10°C, CDD10): for any one day, when the mean temperature is more than 50°F (10°C), there are as many degree-days as degrees Fahrenheit or Celsius temperature difference between the mean temperature for the day and 50°F (10°C) (mean temperature minus 50°F [10°C]). Annual cooling degree-days (CDDs) are the sum of the degree-days over a calendar year.

heating degree-day base 65°F, HDD65 (18°C, HDD18): for any one day, when the mean temperature is less than 65°F (18°C), there are as many degree-days as degrees Fahrenheit or Celsius temperature difference between and 65°F (18°C) and the mean temperature for the day (65°F [18°C] minus the mean temperature). Annual heating degree-days (HDDs) are the sum of the degree-days over a calendar year.

3.2 Abbreviations and Acronyms

CDD_n	=	cooling degree-days base *n*°F, °F·day (*n*°C, °C·day)
CDH_n	=	cooling degree-hours base *n*°F, °F·h (*n*°C, °C·h)
CZ	=	climate zone
DB	=	dry-bulb temperature, °F (°C)
DP	=	dew-point temperature, °F (°C)
$E_{bn,noon}$	=	clear-sky beam normal irradiance at solar noon, Btu/h/ft^2 (W/m^2)
$E_{dh,noon}$	=	clear-sky diffuse horizontal irradiance at solar noon, Btu/h/ft^2 (W/m^2)
Elev	=	elevation above sea level, ft (m)
Enth	=	enthalpy, Btu/lb (kJ/kg)
HDD	=	heating degree-days base *n*°F, °F·day (*n*°C, °C·day)
Hours 8/4 12.8/20.6	=	number of hours between 8 a.m. and 4 p.m. with DB between 55°F and 69°F (12.8°C and 20.6°C)
HR	=	Humidity ratio, grains of moisture per pound of dry air (grams of moisture per kg of dry air)
Lat	=	latitude, °N/S
Long	=	longitude, °E/W
MCDB	=	mean coincident dry-bulb temperature, °F (°C)
MCDBR	=	mean coincident dry-bulb temperature range, °F (°C)
MCWB	=	mean coincident wet-bulb temperature, °F (°C)
MCWBR	=	mean coincident wet-bulb temperature range, °F (°C)
MCWS	=	mean coincident wind speed, mph (m/s)
MDBR	=	mean dry-bulb temperature range, °F (°C)
NA	=	not available

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PCWD	=	prevailing coincident wind direction, degrees, 0 = north, 90 = east
Period	=	years used to calculate the design conditions
Precip	=	liquid precipitation, in. (mm)
Sd	=	standard deviation of daily average temperature, °F (°C)
StdP	=	standard pressure at station elevation, psi (kPa)
taub	=	clear sky optical depth for beam irradiance
taud	=	clear sky optical depth for diffuse irradiance
Tavg	=	average temperature, °F (°C)
Time Zone	=	hours ahead or behind UTC, and time-zone code
UTC	=	Universal Time Coordinate, 0, equal to time zone 0 (same as Greenwich Mean Time ([GMT])
WB	=	wet-bulb temperature, °F (°C)
WBAN	=	Weather Bureau Army Navy number
WMO#	=	World Meteorological Organization station identifier
WS	=	wind speed, mph (m/s)

4. CLIMATIC DESIGN DATA AND CLIMATE ZONES

Normative Appendix A comprises data for 5564 U.S., Canadian, and international locations. This information generally represents annual and monthly percentiles of occurrence of temperature, various measures of humidity, and wind speed for use in the design of building energy and ventilation systems. These data also include HDD and CDD annual average values and the number of hours between 8 a.m. and 4 p.m. when the dry-bulb temperature is between 55°F and 69°F (13°C and 21°C). A sample of this climatic data is provided in Table A-1 for Atlanta, Georgia, USA. Design conditions for all 5564 locations are located online at the following location:

www.ashrae.org/169_2013data

Table A-4 in Normative Appendix A lists climate zones and other key climatic data for U.S., Canadian, and international locations and includes links to the design conditions.

5. U.S. CLIMATE ZONES BY COUNTY

Normative Appendix B contains the climate zones for all U.S. counties. The information is presented in the form of a map (Figure B-1) and Table B-1 for the U.S. Table A-3 provides criteria for determining the climate zones of international locations for which general climate summary information is available.

6. INTERNATIONAL CLIMATE ZONE MAPS

Informative Appendix C provides climate zone maps for major countries and continents. The maps are one degree latitude by one degree longitude resolution. For this reason, the data and climate zones for specific locations outside the U. S. presented in Normative Appendix A shall be used. These maps are provided to show general locations of the climate zones.

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(This is a normative appendix and is part of this standard.)

NORMATIVE APPENDIX A
CLIMATIC DESIGN DATA AND CLIMATE ZONES

This section describes the data contained in Normative Appendix A, which are included online at www.ashrae.org/169_2013data.

A1. CLIMATIC DESIGN CONDITIONS

The annual and monthly climatic design conditions for Atlanta, Georgia, USA, are shown in Table A-1. The data in this table are presented in the same format that is used for the normative tables located online. The top part of the table contains station information as follows:

- Name of the observing station, state (USA), province (Canada), country
- World Meteorological Organization (WMO) station identifier
- Weather Bureau Army Navy (WBAN) number ("99999" denotes missing)
- Latitude of the station, °N/S
- Longitude of the station, °E/W
- Elevation of the station, ft (m)
- Standard pressure at elevation, psia (kPa)
- Time zone, in hours ± UTC
- Time zone code (e.g., NAE = Eastern Time, USA and Canada). Table A-2 lists all the time zone codes used in the tables of climatic design conditions. The time zone codes embody the offset from UTC as well as any applicable daylight savings time scheme.
- Period analyzed (e.g., 82–06 = data from 1982 to 2006 were used)

A1.1 Annual Design Conditions

Annual climatic design conditions are contained in the first three sections following the top part of the table. They contain information as shown in the following subsections.

A1.1.1 Annual Heating and Humidification Design Conditions

- Coldest month (i.e., month with the lowest average dry-bulb temperature; 1 = January, 12 = December)
- Dry-bulb temperature corresponding to the 99.6% and 99.0% annual cumulative frequency of occurrence (cold conditions) in °F (°C)
- Dew-point temperature corresponding to the 99.6% and 99.0% annual cumulative frequency of occurrence in °F (°C); corresponding humidity ratio, calculated at the standard atmospheric pressure at the elevation of the station, in grains of moisture per lb of dry air (g of moisture per kg of dry air); and mean coincident dry-bulb temperature in °F or °C
- Wind speed corresponding to the 0.4% and 1.0% cumulative frequency of occurrence for the coldest month in mph (m/s), and the mean coincident dry-bulb temperature in °F (°C)
- Mean wind speed coincident with the 99.6% dry-bulb temperature in mph (m/s), and the corresponding, most frequent wind direction in degrees from north (east = 90°)

A1.1.2 Annual Cooling, Dehumidification, and Enthalpy Design Conditions

- Hottest month (i.e., month with the highest average dry-bulb temperature; 1 = January, 12 = December)
- Daily temperature range for the hottest month in °F (°C). This is defined as the mean of the difference between the daily maximum and daily minimum dry-bulb temperatures for the hottest month.
- Dry-bulb temperature corresponding to the 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence (warm conditions) in °F (°C), and the mean coincident wet-bulb temperature in °F (°C)
- Wet-bulb temperature corresponding to the 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence in °F (°C), and the mean coincident dry-bulb temperature in °F (°C)
- Mean wind speed coincident with the 0.4% dry-bulb temperature in mph or m/s, and the corresponding, most frequent wind direction in degrees from north (east = 90°).
- Dew-point temperature corresponding to the 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence in °F (°C); corresponding humidity ratio, calculated at the standard atmospheric pressure at the elevation of the station in grains of moisture per lb of dry air (grains of moisture per kg of dry air); and the mean coincident dry-bulb temperature in °F (°C)
- Enthalpy corresponding to the 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence in Btu/lb (kJ/kg), and the mean coincident dry-bulb temperature in °F (°C)

A1.1.3 Extreme Annual Design Conditions

- Wind speed corresponding to the 1.0%, 2.5%, and 5.0% annual cumulative frequency of occurrence in mph (m/s)
- Extreme maximum wet-bulb temperature in °F (°C)
- Mean and standard deviation of extreme annual minimum and maximum dry-bulb temperature in °F (°C)
- 5-, 10-, 20-, and 50-year return period values for minimum and maximum extreme dry-bulb temperature in °F (°C)

A2. MONTHLY CLIMATIC DESIGN CONDITIONS

Monthly design conditions are divided into subsections as follows.

A2.1 Temperatures, Degree-Days, and Degree-Hours

- Average temperature in °F (°C). This parameter is a prime indicator of climate and is also useful to calculate heating and cooling degree-days to any base.
- Standard deviation of average daily temperature in °F (°C). This parameter is useful to calculate heating and cooling degree-days to any base.

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- Heating and cooling degree-days (bases 50°F and 65°F [10°C and 18.3°C]). These parameters are useful in energy estimating methods. They are also used to classify locations into climate zones in Appendix B.
- Cooling degree-hours (bases 74°F and 80°F [23.3°C and 26.7°C]). These are used in various standards, such as Standard 90.2.

A2.2 Monthly Design Dry-Bulb, Wet-Bulb, and Mean Coincident Temperatures. These values are derived from the same analysis that results in the annual design conditions. The monthly summaries are useful when seasonal variations in solar geometry and intensity, building or facility occupancy, or building use patterns require consideration. In particular, these values can be used when determining air-conditioning loads during periods of maximum solar radiation. The values listed in the table include

- dry-bulb temperature corresponding to the 0.4%, 2.0%, 5.0%, and 10.0% cumulative frequency of occurrence for the indicated month in °F (°C), and the mean coincident wet-bulb temperature in °F (°C) and
- wet-bulb temperature corresponding to the 0.4%, 2.0%, 5.0%, and 10.0% cumulative frequency of occurrence for the indicated month in °F (°C), and the mean coincident dry-bulb temperature in °F (°C)

For a 30-day month, the 0.4%, 2.0%, 5.0%, and 10.0% values of occurrence represent the value that occurs or is exceeded for a total of 3, 14, 36, or 72 hours, respectively, per month on average over the period of record. Monthly percentile values of dry-bulb or wet-bulb temperature may be higher or lower than the design conditions corresponding to the same nominal percentile, depending on the month and the seasonal distribution of the parameter at that location. Generally, for the hottest or most humid months of the year, the monthly percentile value will exceed the design condition for the same element corresponding to the same nominal percentile. For instance, Table A-1 shows that the annual 0.4% design dry-bulb temperature in Atlanta, GA is 93.9°F (34.4°C). The 0.4% monthly dry-bulb temperature exceeds 93.9°F (34.4°C) for June, July, and August, with values of 94.7°F (34.9°C), 97.9°F (36.6°C), and 96.3°F (35.7°C), respectively.

A2.3 Mean Daily Temperature Range. These values are useful in calculating daily dry- and wet-bulb temperature profiles. Three kinds of profiles are defined:

- Mean daily temperature range for month indicated in °F (°C) (defined as the mean of difference between daily maximum and minimum dry-bulb temperature)
- Mean daily dry- and wet-bulb temperature ranges coincident with the 5% monthly design dry-bulb temperature. This is the difference between daily maximum and minimum dry- or wet-bulb temperatures, respectively, averaged over all days where the maximum daily dry-bulb temperature exceeds the 5% monthly design dry-bulb temperature.
- Mean daily dry- and wet-bulb temperature ranges coincident with the 5% monthly design wet-bulb temperature. This is the difference between daily maximum and minimum dry- or wet-bulb temperatures, respectively, averaged over all days where the maximum daily wet-bulb temperature exceeds the 5% monthly design dry-bulb temperature.

A2.4 Clear-Sky Solar Irradiance. Clear-sky irradiance parameters are useful in calculating solar-related air-conditioning loads for any time of any day of the year. Parameters are provided for the 21st day of each month. The 21st of the month is usually a convenient day for solar calculations because June 21 and December 21 represent the solstices (longest and shortest days), and March 21 and September 21 are close to the equinox (days and nights have the same length). Parameters listed in the tables are as follows:

- Clear-sky optical depths for beam and diffuse irradiances
- Clear-sky beam normal and diffuse horizontal irradiances at solar noon. These two values can be calculated from the clear-sky optical depths but are listed here for convenience.

Table A-4 lists the 5564 stations alphabetically, with the exception that U.S. and Canadian locations are placed first and second in the table. Climatic design conditions for each location in both SI and I-P units are located online at www.ashrae.org/169_2013data. The files are named by the WMO#. Thus, the filenames for Atlanta are 722190_p.pdf for I-P units and 722190_s.pdf for SI units. Users may also access the files by opening the file named StnList_p.pdf (for I-P units) or StnList_s.pdf (for SI units), which gives the alphabetical listing of stations and the corresponding WMO#, and then clicking on the WMO# link.

A3. CLIMATE ZONE DEFINITIONS

To determine the climate zones for locations not listed in this standards, use the following information to determine climate zone numbers and letters.

Determine the thermal climate zone, 0–8, from Table A-3, using the heating and cooling degree-days for the location.

Determine the moisture zone (Marine, Dry or Humid):

a. If monthly average temperature and precipitation data are available, use the Marine, Dry, and Humid definitions below to determine the moisture zone (C, B, or A).
b. If monthly or annual average temperature information (including degree-days) and only annual precipitation (i.e. annual mean) are available, use the following to determine the moisture zone:
   1. If thermal climate zone is 3 and CDD50ºF ≤ 4500 (CDD10ºC ≤ 2500), climate zone is Marine (3C).
   2. If thermal climate zone is 4 and CDD50ºF ≤ 2700 (CDD10ºC ≤ 1500), climate zone is Marine (4C).
   3. If thermal climate zone is 5 and CDD50ºF ≤ 1800 (CDD10ºC ≤ 1000), climate zone is Marine (5C).
c. If only degree-day information is available, use the following to determine the moisture zone:
   1. If thermal climate zone is 3 and CDD50ºF ≤ 4500 (CDD10ºC ≤ 2500), climate zone is Marine (3C).

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2. If thermal climate zone is 4 and CDD50ºF ≤ 2700 (CDD10ºC ≤ 1500), climate zone is Marine (4C).
3. If thermal climate zone is 5 and CDD50ºF ≤ 1800 (CDD10ºC ≤ 1000), climate zone is Marine (5C).

Marine (C) Zone Definition—Locations meeting all four of the following criteria:

a. Mean temperature of coldest month between 27°F (–3°C) and 65°F (18°C)
b. Warmest month mean < 72°F (22°C)
c. At least four months with mean temperatures over 50°F (10°C)
d. Dry season in summer. The month with the heaviest precipitation in the cold season has at least three times as much precipitation as the month with the least precipitation in the rest of the year. The cold season is October through March in the Northern Hemisphere and April through September in the Southern Hemisphere.

Dry (B) Definition—Locations meeting the following criteria:

a. Not Marine (C)
b. If 70% or more of the precipitation, *P*, occurs during the high sun period, then the dry/humid threshold is

$$P < 0.44 \times (T - 7) \text{ (I-P)}$$

$$P < 20.0 \times (T + 14) \text{ (SI)}$$

c. If between 30% and 70% of the precipitation, *P*, occurs during the high sun period, then the dry/humid threshold is

$$P < 0.44 \times (T - 19.5) \text{ (I-P)}$$

$$P < 20.0 \times (T + 7) \text{ (SI)}$$

d. If 30% or less of the precipitation, *P*, occurs during the high sun period, then the dry/humid threshold is

$$P < 0.44 \times (T - 32) \text{ (I-P)}$$

$$P < 20 \times T \text{ (SI)}$$

where

P	=	annual precipitation, in. (mm)
T	=	annual mean temperature, °F (°C)
Summer or high sun period	=	April through September in the Northern Hemisphere and October through March in the Southern Hemisphere
Winter or cold season	=	October through March in the Northern Hemisphere and April through September in the Southern Hemisphere

Humid (A) Definition—Locations that are not Marine (C) and not Dry (B)

A4. CLIMATE ZONES

Tables A-4, A-5, and A-6 give the climate zone and mean annual precipitation for locations in the United States, Canada, and International locations, respectively. Normative Appendix B provides a list of climate zones by U.S. state and county. For locations that are not listed either in Tables A-5 or A-6, use the Climate Zone Definitions in Section A-3 and Table A-3 to determine both the climate zone letter and number.

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TABLE A-1 Design Conditions for Atlanta, GA, USA (I-P)

Lat: **33.64N** Long: **84.43W** Elev: **1027** StdP: **14.16** Time Zone: **-5.00 (NAE)** Period: **82-06** WBAN: **13874**

Annual Heating and Humidification Design Conditions

Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB	
			99.6%			99%			0.4%		1%			
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD
1	**20.7**	**25.8**	**3.5**	**6.8**	**27.4**	**8.8**	**9.0**	**32.2**	**25.5**	**37.3**	**24.0**	**38.1**	**11.8**	**320**

Annual Cooling, Dehumidification, and Enthalpy Design Conditions

Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB	
		0.4%		1%		2%		0.4%		1%		2%			
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD
7	**17.1**	**93.8**	**74.3**	**91.5**	**74.0**	**89.3**	**73.4**	**77.2**	**88.2**	**76.2**	**86.5**	**75.3**	**84.9**	**8.9**	**300**

Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Hours 8 to 4 & 55/69
0.4%			1%			2%			0.4%		1%		2%		
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB	
74.2	**132.7**	**81.2**	**73.3**	**128.4**	**80.1**	**72.4**	**124.8**	**79.4**	**41.2**	**88.3**	**40.2**	**86.6**	**39.3**	**85.4**	**813**

Extreme Annual Design Conditions

Extreme Annual WS			Extreme Max WB	Extreme Annual DB				n-Year Return Period Values of Extreme DB							
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years	
1%	2.5%	5%		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
22.0	**19.2**	**17.3**	**82.4**	**11.8**	**96.5**	**7.6**	**3.3**	**6.4**	**98.9**	**2.0**	**100.8**	**-2.3**	**102.6**	**-7.8**	**105.0**

Monthly Climatic Design Conditions

			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperatures, Degree-Days and Degree-Hours	Tavg		**62.7**	**43.8**	**47.8**	**54.6**	**61.9**	**70.2**	**76.7**	**80.1**	**79.1**	**73.2**	**63.5**	**54.3**	**45.8**
	Sd			**9.61**	**9.09**	**8.99**	**7.82**	**6.02**	**4.54**	**3.56**	**3.71**	**5.83**	**7.08**	**8.38**	**9.36**
	HDD50		**686**	**237**	**136**	**58**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**52**	**192**
	HDD65		**2694**	**657**	**482**	**333**	**145**	**24**	**1**	**0**	**0**	**11**	**114**	**331**	**596**
	CDD50		**5309**	**46**	**74**	**201**	**366**	**626**	**800**	**934**	**902**	**695**	**422**	**181**	**62**
	CDD65		**1841**	**0**	**1**	**12**	**53**	**184**	**351**	**469**	**438**	**255**	**67**	**10**	**1**
	CDH74		**15755**	**0**	**5**	**96**	**452**	**1433**	**3081**	**4497**	**3952**	**1854**	**352**	**32**	**1**
	CDH80		**5878**	**0**	**0**	**8**	**82**	**387**	**1203**	**1987**	**1592**	**578**	**40**	**1**	**0**
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB		**70.4**	**73.7**	**80.7**	**85.8**	**90.1**	**94.7**	**97.9**	**96.3**	**92.1**	**83.7**	**78.0**	**71.9**
		MCWB		**59.6**	**60.9**	**62.9**	**66.1**	**71.9**	**73.7**	**74.9**	**75.1**	**73.2**	**69.7**	**64.3**	**62.5**
	2%	DB		**65.9**	**69.3**	**76.6**	**82.4**	**86.9**	**91.7**	**94.6**	**92.8**	**88.3**	**80.8**	**74.0**	**68.0**
		MCWB		**58.3**	**59.0**	**60.2**	**64.3**	**69.9**	**72.8**	**74.8**	**74.8**	**72.0**	**67.2**	**62.9**	**61.0**
	5%	DB		**62.4**	**65.9**	**73.3**	**79.4**	**84.3**	**89.3**	**92.0**	**90.3**	**86.0**	**78.2**	**71.1**	**64.3**
		MCWB		**55.8**	**57.3**	**58.8**	**62.8**	**68.9**	**72.1**	**74.4**	**74.3**	**71.3**	**65.3**	**61.9**	**58.7**
	10%	DB		**58.8**	**62.6**	**69.7**	**76.0**	**81.7**	**86.8**	**89.4**	**87.9**	**83.5**	**75.1**	**67.9**	**60.7**
		MCWB		**52.7**	**55.1**	**57.7**	**61.5**	**67.6**	**71.4**	**74.3**	**73.6**	**70.6**	**64.4**	**60.4**	**54.7**
Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB		**64.0**	**65.4**	**66.7**	**70.8**	**75.1**	**76.9**	**78.9**	**78.3**	**76.3**	**72.6**	**69.3**	**66.2**
		MCDB		**67.4**	**67.6**	**73.8**	**78.9**	**83.9**	**87.8**	**90.1**	**89.7**	**85.9**	**80.0**	**72.3**	**69.0**
	2%	WB		**61.1**	**62.5**	**64.3**	**68.2**	**73.0**	**75.4**	**77.4**	**77.0**	**74.6**	**70.3**	**66.8**	**63.2**
		MCDB		**64.0**	**66.6**	**71.6**	**76.1**	**82.6**	**85.9**	**88.5**	**88.0**	**83.3**	**76.2**	**70.8**	**66.0**
	5%	WB		**57.5**	**59.9**	**62.2**	**66.3**	**71.4**	**74.5**	**76.5**	**76.0**	**73.5**	**68.8**	**64.6**	**59.9**
		MCDB		**60.8**	**64.1**	**69.5**	**74.1**	**80.5**	**84.4**	**87.0**	**85.9**	**81.5**	**74.0**	**68.6**	**63.9**
	10%	WB		**53.8**	**56.5**	**59.9**	**64.2**	**69.9**	**73.4**	**75.4**	**75.1**	**72.6**	**67.2**	**62.2**	**55.7**
		MCDB		**57.3**	**60.5**	**66.5**	**72.0**	**78.2**	**82.5**	**85.3**	**84.2**	**80.0**	**72.5**	**66.6**	**59.4**
Mean Daily Temperature Range		MDBR		**17.4**	**17.8**	**19.5**	**20.1**	**18.8**	**17.3**	**17.1**	**16.4**	**16.5**	**17.8**	**18.1**	**17.0**
	5% DB	MCDBR		**20.8**	**21.2**	**23.3**	**23.0**	**20.4**	**20.5**	**20.7**	**19.4**	**18.9**	**19.7**	**20.2**	**19.6**
		MCWBR		**14.5**	**12.9**	**11.9**	**9.8**	**7.9**	**6.6**	**6.3**	**6.1**	**6.7**	**8.7**	**11.5**	**13.4**
	5% WB	MCDBR		**16.9**	**17.2**	**18.3**	**18.1**	**17.5**	**17.3**	**18.0**	**17.0**	**15.7**	**15.0**	**15.7**	**16.8**
		MCWBR		**14.2**	**13.2**	**11.9**	**9.9**	**8.0**	**6.8**	**6.6**	**6.2**	**6.9**	**8.5**	**11.3**	**13.6**
Clear Sky Solar Irradiance	taub			**0.325**	**0.349**	**0.383**	**0.395**	**0.448**	**0.505**	**0.556**	**0.593**	**0.431**	**0.373**	**0.339**	**0.320**
	taud			**2.461**	**2.316**	**2.176**	**2.175**	**2.028**	**1.892**	**1.779**	**1.679**	**2.151**	**2.317**	**2.422**	**2.514**
	Ebn,noon			**282**	**285**	**282**	**283**	**268**	**252**	**238**	**227**	**264**	**273**	**273**	**277**
	Edh,noon			**30**	**37**	**45**	**47**	**55**	**63**	**70**	**76**	**46**	**37**	**31**	**28**

CDD*n* Cooling degree-days base n°F, °F-day
CDH*n* Cooling degree-hours base n°F, °F-hour
DB Dry bulb temperature, °F
DP Dew point temperature, °F
Ebn,noon } Clear sky beam normal and diffuse hori-
Edh,noon } zontal irradiances at solar noon, Btu/h/ft2
Elev Elevation, ft
Enth Enthalpy, Btu/lb
HDD*n* Heating degree-days base n°F, °F-day
Hours 8/4 & 55/69 Number of hours between 8 a.m. and 4 p.m with DB between 55 and 69 °F
HR Humidity ratio, grains of moisture per lb of dry air
Lat Latitude, °
Long Longitude, °
MCDB Mean coincident dry bulb temperature, °F
MCDBR Mean coincident dry bulb temp. range, °F
MCDP Mean coincident dew point temperature, °F
MCWB Mean coincident wet bulb temperature, °F
MCWBR Mean coincident wet bulb temp. range, °F
MCWS Mean coincident wind speed, mph
MDBR Mean dry bulb temp. range, °F
PCWD Prevailing coincident wind direction, °, 0 = North, 90 = East
Period Years used to calculate the design conditions
Sd Standard deviation of daily average temperature, °F
StdP Standard pressure at station elevation, psi
taub Clear sky optical depth for beam irradiance
taud Clear sky optical depth for diffuse irradiance
Tavg Average temperature, °F
Time Zone Hours ahead or behind UTC, and time zone code
WB Wet bulb temperature, °F
WBAN Weather Bureau Army Navy number
WMO# World Meteorological Organization number
WS Wind speed, mph

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TABLE A-1 Design Conditions for Atlanta, GA, USA (SI)

Lat: **33.64N** Long: **84.43W** Elev: **313** StdP: **97.62** Time Zone: **-5.00 (NAE)** Period: **82-06** WBAN: **13874**

Annual Heating and Humidification Design Conditions

Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB	
			99.6%			99%			0.4%		1%			
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD
1	**-6.3**	**-3.5**	**-15.8**	**1.0**	**-2.6**	**-12.9**	**1.3**	**0.1**	**11.4**	**3.0**	**10.7**	**3.4**	**5.3**	**320**

Annual Cooling, Dehumidification, and Enthalpy Design Conditions

Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB	
		0.4%		1%		2%		0.4%		1%		2%			
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD
7	**9.5**	**34.4**	**23.5**	**33.0**	**23.3**	**31.9**	**23.0**	**25.1**	**31.2**	**24.5**	**30.3**	**24.0**	**29.4**	**4.0**	**300**

Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Hours 8 to 4 & 12.8/20.6
0.4%			1%			2%			0.4%		1%		2%		
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB	
23.4	**19.0**	**27.3**	**22.9**	**18.3**	**26.7**	**22.5**	**17.8**	**26.3**	**77.9**	**31.3**	**75.6**	**30.4**	**73.5**	**29.7**	**813**

Extreme Annual Design Conditions

Extreme Annual WS			Extreme Max WB	Extreme Annual DB				n-Year Return Period Values of Extreme DB							
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years	
1%	2.5%	5%		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
9.8	**8.6**	**7.7**	**28.0**	**-11.2**	**35.9**	**4.2**	**1.8**	**-14.2**	**37.2**	**-16.7**	**38.2**	**-19.0**	**39.2**	**-22.1**	**40.6**

Monthly Climatic Design Conditions

			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperatures, Degree-Days and Degree-Hours	Tavg		17.0	6.6	8.8	12.6	16.6	21.2	24.8	26.7	26.2	22.9	17.5	12.4	7.7
	Sd			5.34	5.05	5.00	4.35	3.34	2.52	1.98	2.06	3.24	3.93	4.66	5.20
	HDD10.0		381	132	76	32	4	0	0	0	0	0	2	29	107
	HDD18.3		1497	365	268	185	81	13	1	0	0	6	63	184	331
	CDD10.0		2949	26	41	112	203	348	444	519	501	386	234	101	34
	CDD18.3		1023	0	1	7	29	102	195	261	243	142	37	6	1
	CDH23.3		8753	0	3	53	251	796	1712	2498	2196	1030	196	18	1
	CDH26.7		3266	0	0	4	46	215	668	1104	884	321	22	1	0
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB		21.4	23.2	27.0	29.9	32.3	34.9	36.6	35.7	33.4	28.7	25.6	22.2
		MCWB		15.3	16.1	17.2	18.9	22.1	23.2	23.8	23.9	22.9	21.0	17.9	16.9
	2%	DB		18.9	20.7	24.8	28.0	30.5	33.2	34.8	33.8	31.3	27.1	23.3	20.0
		MCWB		14.6	15.0	15.7	17.9	21.0	22.6	23.8	23.8	22.2	19.5	17.2	16.1
	5%	DB		16.9	18.8	22.9	26.4	29.1	31.8	33.3	32.4	30.0	25.7	21.7	17.9
		MCWB		13.2	14.0	14.9	17.1	20.5	22.3	23.5	23.5	21.8	18.5	16.6	14.8
	10%	DB		14.9	17.0	20.9	24.4	27.6	30.5	31.9	31.1	28.6	24.0	20.0	16.0
		MCWB		11.5	12.8	14.3	16.4	19.8	21.9	23.5	23.1	21.5	18.0	15.8	12.6
Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB		17.8	18.6	19.3	21.6	23.9	25.0	26.1	25.7	24.6	22.6	20.7	19.0
		MCDB		19.7	19.8	23.2	26.1	28.8	31.0	32.3	32.0	30.0	26.7	22.4	20.6
	2%	WB		16.2	17.0	17.9	20.1	22.8	24.1	25.2	25.0	23.7	21.3	19.3	17.3
		MCDB		17.8	19.2	22.0	24.5	28.1	30.0	31.4	31.1	28.5	24.5	21.5	18.9
	5%	WB		14.2	15.5	16.8	19.0	21.9	23.6	24.7	24.4	23.1	20.4	18.1	15.5
		MCDB		16.0	17.8	20.8	23.4	27.0	29.1	30.6	29.9	27.5	23.4	20.3	17.7
	10%	WB		12.1	13.6	15.5	17.9	21.1	23.0	24.1	23.9	22.6	19.5	16.8	13.2
		MCDB		14.1	15.8	19.2	22.2	25.6	28.0	29.6	29.0	26.6	22.5	19.2	15.2
Mean Daily Temperature Range		MDBR		9.7	9.9	10.8	11.1	10.4	9.6	9.5	9.1	9.2	9.9	10.1	9.5
	5% DB	MCDBR		11.6	11.8	12.9	12.8	11.3	11.4	11.5	10.8	10.5	11.0	11.2	10.9
		MCWBR		8.0	7.2	6.6	5.5	4.4	3.7	3.5	3.4	3.7	4.9	6.4	7.4
	5% WB	MCDBR		9.4	9.5	10.2	10.0	9.7	9.6	10.0	9.5	8.7	8.3	8.7	9.3
		MCWBR		7.9	7.3	6.6	5.5	4.4	3.8	3.6	3.4	3.8	4.7	6.3	7.6
Clear Sky Solar Irradiance	taub			0.325	0.349	0.383	0.395	0.448	0.505	0.556	0.593	0.431	0.373	0.339	0.320
	taud			2.461	2.316	2.176	2.175	2.028	1.892	1.779	1.679	2.151	2.317	2.422	2.514
	Ebn,noon			888	898	890	893	845	794	751	714	832	859	862	874
	Edh,noon			95	117	143	148	173	198	220	239	144	115	97	87

CDD*n* Cooling degree-days base n°C, °C-day
CDH*n* Cooling degree-hours base n°C, °C-hour
DB Dry bulb temperature, °C
DP Dew point temperature, °C
Ebn,noon } Clear sky beam normal and diffuse hori-
Edh,noon } zontal irradiances at solar noon, W/m2
Elev Elevation, m
Enth Enthalpy, kJ/kg
HDD*n* Heating degree-days base n°C, °C-day
Hours 8/4 & 12.8/20.6 Number of hours between 8 a.m. and 4 p.m with DB between 12.8 and 20.6 °C
HR Humidity ratio, g of moisture per kg of dry air
Lat Latitude, °
Long Longitude, °
MCDB Mean coincident dry bulb temperature, °C
MCDBR Mean coincident dry bulb temp. range, °C
MCDP Mean coincident dew point temperature, °C
MCWB Mean coincident wet bulb temperature, °C
MCWBR Mean coincident wet bulb temp. range, °C
MCWS Mean coincident wind speed, m/s
MDBR Mean dry bulb temp. range, °C
PCWD Prevailing coincident wind direction, °, 0 = North, 90 = East
Period Years used to calculate the design conditions
Sd Standard deviation of daily average temperature, °C
StdP Standard pressure at station elevation, kPa
taub Clear sky optical depth for beam irradiance
taud Clear sky optical depth for diffuse irradiance
Tavg Average temperature, °C
Time Zone Hours ahead or behind UTC, and time zone code
WB Wet bulb temperature, °C
WBAN Weather Bureau Army Navy number
WMO# World Meteorological Organization number
WS Wind speed, m/s

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TABLE A-2 Time Zone Codes

Code	Name	Additional Information	Minutes ± UTC	DstBeg	StdBeg
AEU	Australia/Eucla	(GMT+08:45) Eucla	525	1015	315
AFE	Africa/East	(GMT+03:00) Nairobi, Kuwait, Riyadh	180	0	0
AFG	Afghanistan	(GMT+04:30) Kabul	270	0	0
AFS	South Africa	(GMT+02:00) Harare, Pretoria	120	0	0
AFW	Africa/West Central	(GMT+01:00) West Central Africa	60	0	0
ARC	Arabian Peninsula/Baghdad	(GMT+03:00) Baghdad	180	401	1001
ARN	Arabian Peninsula/Abu Dhabi	(GMT+04:00) Abu Dhabi, Muscat	240	0	0
ASC	Central Asia	(GMT+06:00) Dhaka	360	0	0
ASE	Asia/East	(GMT+08:00) Irkutsk	480	315	1015
ASN	Asia/North	(GMT+07:00) Krasnoyarsk	420	315	1015
ASR	Asia/North Central	(GMT+06:00) Almaty, Bishkek, Novosibirsk	360	315	1015
ASV	Asia/Vladivostok	(GMT+10:00) Vladivostok	600	315	1015
ASW	Asia/West	(GMT+05:00) Islamabad, Samarkand, Ashgabat, Dushanbe	300	0	0
AUA	Australia/South	(GMT+09:30) Adelaide	570	1011	411
AUB	Australia/Queensland	(GMT+10:00) Brisbane	600	0	0
AUC	Australia/Northern	(GMT+09:30) Darwin	570	0	0
AUE	Australia/South East	(GMT+10:00) Canberra, Melbourne, Sydney, Hobart	600	1011	411
AUH	Australia/Lord Howe Island	(GMT+10:30) Howe	630	1011**	0411**
AUN	Pacific/Norfolk	(GMT+11:30) Norfolk	690	0	0
AUW	Australia/West	(GMT+08:00) Perth	480	1015	315
AZR	Azores	(GMT-01:00) Azores	–60	315	1015
CAM	Central America	(GMT-06:00) Central America	–360	0	0
CAU	Caucasus	(GMT+04:00) Baku, Yerevan, Samara	240	315	1015
CHN	China	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi, Taipei	480	0	0
CVI	Cape Verde	(GMT-01:00) Cape Verde Is.	–60	0	0
EAS	Easter Island	(GMT-06:00) Easter Island	–360	1012*	0312*
EGP	Egypt	(GMT+02:00) Cairo	120	465	951
EKT	Ekaterinburg	(GMT+05:00) Ekaterinburg	300	315	1015
EUE	Europe/East	(GMT+02:00) Bucharest, Sofija, Nicolosia, Helsinki, Riga, Tallinn, Vilnius, Athens, Istanbul, Minsk	120	315	1015
EUW	Europe/West	(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna, Belgrade, Bratislava, Budapest, Ljubljana, Prague, Sarajevo, Skopje, Warsaw, Zagreb, Brussels, Copenhagen, Madrid, Paris	60	315	1015
FJI	Fiji	(GMT+12:00) Fiji, Marshall Is.	720	0	0
FLK	Falkland Islands	(GMT-04:00) Stanley	–240	911	413
GMT	GMT	(GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London, Reykjavik	0	315	1015
GRN	Greenland	(GMT-03:00) Godthab	–180	315	1015
GRW	Greenwich/West	(GMT) Casablanca, Monrovia	0	0	0
GST	Georgia	(GMT+04:00) Tbilisi	240	0	0

Key:

- Code: three-letter time zone acronym
- Name: the name of the time zone, which usually explains the meaning of the acronym (e.g., AFE = Africa/East)
- Additional information
- Minutes ±UTC: number of minutes that the time zone is ahead (positive values) or behind (negative values) the Universal Time Coordinate
- DstBeg, StdBeg: start of daylight savings time and of standard time. The format is: mmdx, where:
  - mm = month (1–12, with 0 = no daylight savings time).
  - d = day of week (1 = Sunday).
  - x = which week of the month (1=1st, 2=2nd, ... 5=last).

Notes:

* The start of the period is actually after the 9th day of the month.

** Lord Howe Island shifts by one half hour during Daylight Savings Time.

Note that these time-zone codes have no official value and are provided as an indication only. The user must double-check the values provided in the tables for possible errors or changes.

Note also that some time zones may appear to duplicate each other (e.g., EUC and EUN are identical) but are listed separately in the table for historical reasons.

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TABLE A-2 Time Zone Codes *(Continued)*

Code	Name	Additional Information	Minutes ± UTC	DstBeg	StdBeg
IND	India	(GMT+05:30) Calcutta, Chennai, Mumbai, New Delhi, Sri Jayawardenepura	330	0	0
IRN	Iran	(GMT+03:30) Tehran	210	0	0
IST	Israel	(GMT+02:00) Zion	120	Undef.	Undef.
JPN	Japan	(GMT+09:00) Osaka, Sapporo, Tokyo, Seoul	540	0	0
JRD	Jordan	(GMT+02:00) Amman	120	355	1065
KAM	Kamchatka	(GMT+12:00) Kamchatka	720	315	1015
MAG	Magadan	(GMT+11:00) Magadan	660	315	1015
MEC	Mexico/West	(GMT-07:00) Chihuahua	–420	411	1015
MET	Mexico/Tijuana	(GMT-08:00) Tijuana	–480	411	1015
MEX	Mexico	(GMT-06:00) Mexico City	–360	411	1015
MLY	Malay Peninsula	(GMT+08:00) Kuala Lumpur, Singapore	480	0	0
MNG	Mongolia	(GMT+08:00) Ulaan Bataar	480	0	0
MYR	Myanmar	(GMT+06:30) Rangoon	390	0	0
NAA	North America/Atlantic	(GMT-04:00) Atlantic Time (Canada and Greenland)	–240	312	1111
NAC	North America/Central	(GMT-06:00) Central Time (U.S. and Canada)	–360	312	1111
NAD	North America/Dawson Creek	(GMT-07:00) Dawson Creek (Canada)	–420	0	0
NAE	North America/Eastern	(GMT-05:00) Eastern Time (U.S. and Canada)	–300	312	1111
NAF	North America/Newfoundland	(GMT-03:30) Newfoundland	–210	312	1111
NAH	North America/Adak	(GMT-10:00) Adak	–600	312	1111
NAI	North America/Indiana	(GMT-05:00) Indiana (East)	–300	0	0
NAK	North America/Alaska	(GMT-09:00) Alaska	–540	312	1111
NAM	North America/Mountain	(GMT-07:00) Mountain Time (U.S. and Canada)	–420	312	1111
NAP	North America/Pacific	(GMT-08:00) Pacific Time (U.S. and Canada); Tijuana	–480	312	1111
NAS	North America/Saskatchewan	(GMT-06:00) Saskatchewan	–360	0	0
NAZ	North America/Arizona	(GMT-07:00) Arizona	–420	0	0
NPL	Nepal	(GMT+05:45) Kathmandu	345	0	0
NWA	North West Atlantic	(GMT-03:00) Northwest Atlantic	–180	312	1111
NZC	New Zealand/Chatham Islands	(GMT+12:45) Chatham	765	915	411
NZL	New Zealand	(GMT+12:00) Auckland, Wellington	720	915	411
PAR	Paraguay	(GMT-04:00) Paraguay	–240	1013	312
PCC	Pacific Central	(GMT+11:00) Solomon Is., New Caledonia	660	0	0
PCG	Pacific/Gambier	(GMT-09:00) Gambier	–540	0	0
PCH	Hawaiian	(GMT-10:00) Hawaii	–600	0	0
PCK	Kiribati	(GMT+14:00) Kiritimati	840	0	0
PCM	Pacific/Midway	(GMT-11:00) Midway Island, Samoa	–660	0	0
PCQ	Pacific/Marquesas	(GMT-09:30) Marquesas	–570	0	0
PCT	Pacific/Tonga	(GMT+13:00) Nuku'alofa	780	0	0
PCW	Pacific/West	(GMT+10:00) Guam, Port Moresby	600	0	0
PIT	Pacific/Pitcairn	(GMT-08:00) Pitcairn	–480	0	0

Key:

- Code: three-letter time zone acronym
- Name: the name of the time zone, which usually explains the meaning of the acronym (e.g., AFE = Africa/East)
- Additional information
- Minutes ±UTC: number of minutes that the time zone is ahead (positive values) or behind (negative values) the Universal Time Coordinate
- DstBeg, StdBeg: start of daylight savings time and of standard time. The format is: mmdx, where:
  - mm = month (1–12, with 0 = no daylight savings time).
  - d = day of week (1 = Sunday).
  - x = which week of the month (1=1st, 2=2nd, ... 5=last).

Notes:

* The start of the period is actually after the 9th day of the month.

** Lord Howe Island shifts by one half hour during Daylight Savings Time.

Note that these time-zone codes have no official value and are provided as an indication only. The user must double-check the values provided in the tables for possible errors or changes. Note also that some time zones may appear to duplicate each other (e.g., EUC and EUN are identical) but are listed separately in the table for historical reasons.

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TABLE A-2 Time Zone Codes *(Continued)*

Code	Name	Additional Information	Minutes ± UTC	DstBeg	StdBeg
PSE	Palestine	(GMT+02:00) Gaza city, Bethlehem	120	401	1063
RUS	Russian	(GMT+03:00) Moscow, St. Petersburg, Volgograd	180	315	1015
SAB	South America/Brazil	(GMT-03:00) Brasilia	–180	1111	215
SAC	South America/Chile	(GMT-04:00) Santiago, Palmer Antarctica	–240	1012*	0312*
SAE	South America/Eastern	(GMT-03:00) Buenos Aires	–180	0	0
SAP	South America/Pacific	(GMT-05:00) Bogota, Lima, Quito	–300	0	0
SAU	South America/Uruguay	(GMT-03:00) Montevideo	–180	1011	312
SAW	South America/Western	(GMT-04:00) Caracas, La Paz, Georgetown	–240	0	0
SAZ	South America/West Brazil	(GMT-04:00) Cuiaba	–240	1111	215
SEA	South East Asia	(GMT+07:00) Bangkok, Hanoi, Jakarta	420	0	0
SGS	South Atlantic	(GMT-02:00) South Georgia Is.	–120	0	0
SYR	Syria	(GMT+02:00) Damascus	120	365	1001
XXX	Unspecified	Unspecified—use longitude of local meridian			
YAK	Yakutsk	(GMT+09:00) Yakutsk	540	315	1015

Key:

- Code: three-letter time zone acronym
- Name: the name of the time zone, which usually explains the meaning of the acronym (e.g., AFE = Africa/East)
- Additional information
- Minutes ±UTC: number of minutes that the time zone is ahead (positive values) or behind (negative values) the Universal Time Coordinate
- DstBeg, StdBeg: start of daylight savings time and of standard time. The format is: mmdx, where:
  - mm = month (1–12, with 0 = no daylight savings time).
  - d = day of week (1 = Sunday).
  - x = which week of the month (1=1st, 2=2nd, ... 5=last).

Notes:

* The start of the period is actually after the 9th day of the month.

** Lord Howe Island shifts by one half hour during Daylight Savings Time.

Note that these time-zone codes have no official value and are provided as an indication only. The user must double-check the values provided in the tables for possible errors or changes. Note also that some time zones may appear to duplicate each other (e.g., EUC and EUN are identical) but are listed separately in the table for historical reasons.

TABLE A-3 Thermal Climate Zone Definitions

Thermal Zone	Name	I-P Units	SI Units
0	Extremely hot	10,800 < CDD50ºF	6000 < CDD10ºC
1	Very hot	9000 < CDD50ºF ≤ 10,800	5000 < CDD10ºC ≤ 6000
2	Hot	6300 < CDD50ºF ≤ 9000	3500 < CDD10ºC ≤ 5000
3	Warm	CDD50ºF ≤ 6300 and HDD65ºF ≤ 3600	CDD10ºC < 3500 and HDD18ºC ≤ 2000
4	Mixed	CDD50ºF ≤ 6300 and 3600 < HDD65ºF ≤ 5400	CDD10ºC < 3500 and 2000 < HDD18ºC ≤ 3000
5	Cool	CDD50ºF ≤ 6300 and 5400 < HDD65ºF ≤ 7200	CDD10ºC ≤ 3500 and 3000 < HDD18ºC ≤ 4000
6	Cold	7200 < HDD65ºF ≤ 9000	4000 < HDD18ºC ≤ 5000
7	Very cold	9000 < HDD65ºF ≤ 12600	5000 < HDD18ºC ≤ 7000
8	Subarctic/arctic	12600 < HDD65ºF	7000 < HDD18ºC

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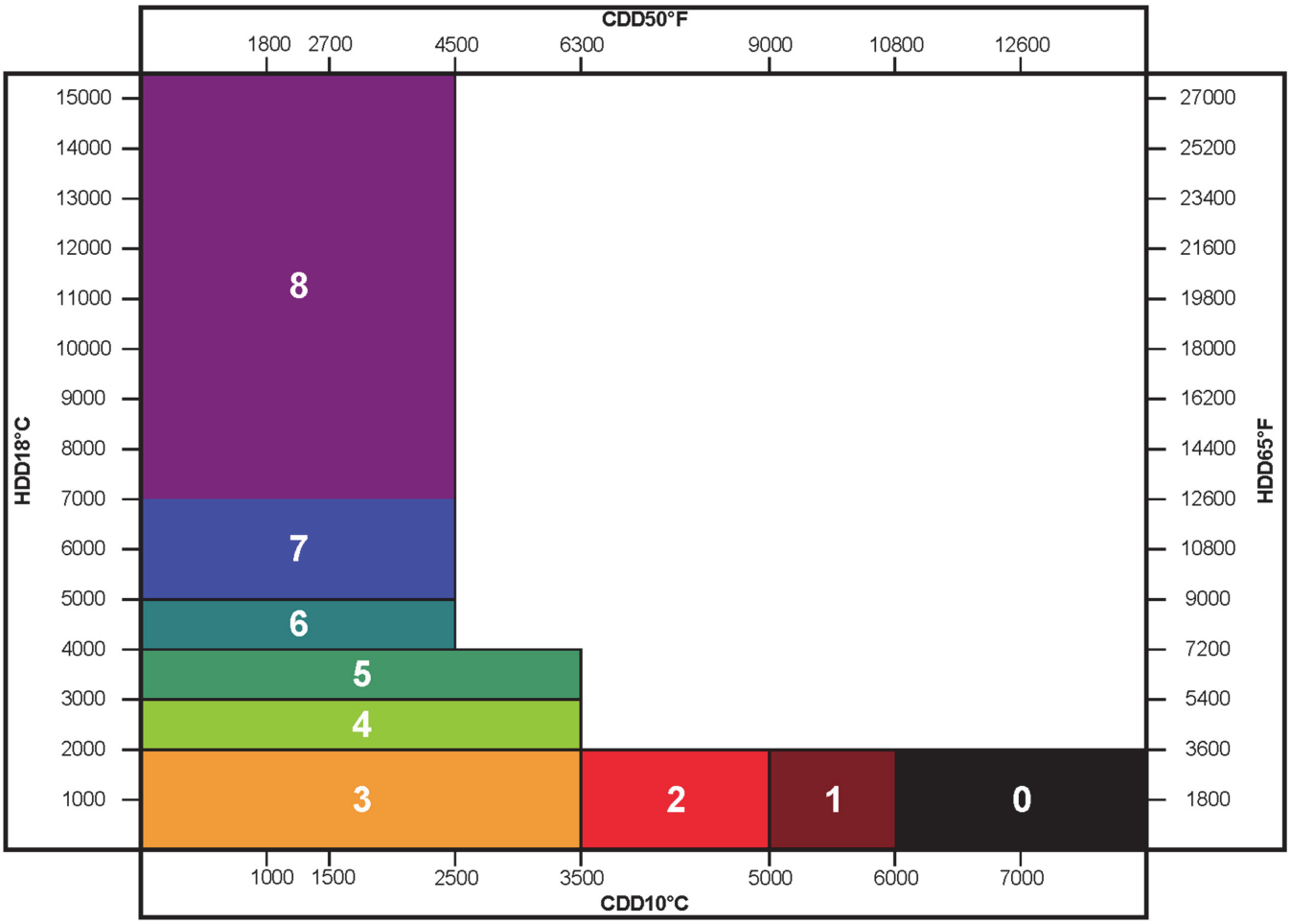

FIGURE A-1 Thermal climate zones as a function of heating and cooling degree-days.

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TABLE A-4 United States Stations and Climate Zones
[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Alabama (AL)						
ANNISTON METROPOLITAN AP	722287	33.59	–85.86	3A	1325	52
AUBURN-OPELIKA APT	722284	32.62	–85.43	3A	1355	53
BIRMINGHAM MUNICIPAL AP	722280	33.56	–86.75	3A	1385	55
CAIRNS AAF/OZARK	722269	31.28	–85.72	2A	1371	54
CENTREVILLE WSMO	722290	32.90	–87.25	3A	1401	55
DAUPHIN ISLAND	994420	30.25	–88.08	2A	1613	63
DOTHAN MUNICIPAL	722268	31.32	–85.45	2A	1367	54
GADSEN MUNI (AWOS)	722285	33.97	–86.08	3A	1397	55
HUNTSVILLE INTL/JONES FIELD	723230	34.64	–86.79	3A	1424	56
MAXWELL AFB/MONTGOM	722265	32.38	–86.37	3A	1328	52
MOBILE REGIONAL AP	722230	30.69	–88.25	2A	1653	65
MONTGOMERY DANNELLY FIELD	722260	32.30	–86.39	3A	1328	52
MUSCLE SHOALS REGIONAL AP	723235	34.75	–87.61	3A	1378	54
TUSCALOOSA MUNICIPAL AP	722286	33.21	–87.62	3A	1337	53
Alaska (AK)						
ADAK NAS	704540	51.88	–176.65	7	1435	56
AMBLER	701718	67.10	–157.85	8	282	11
ANAKTUVUK PASS	701625	68.13	–151.73	8	310	12
ANCHORAGE INTL AP	702730	61.18	–149.99	7	403	16
ANCHORAGE MERRILL FIELD	702735	61.22	–149.86	7	403	16
ANCHORAGE/ELMENDORF	702720	61.25	–149.80	7	403	16
ANNETTE ISLAND AP	703980	55.04	–131.57	5A	2643	104
ANVIK	702075	62.65	–160.18	8	452	18
BARROW W POST-W ROGERS ARPT	700260	71.29	–156.76	8	117	5
BARTER ISLAND (DEW)	700860	70.13	–143.63	8	115	5
BETHEL AIRPORT	702190	60.79	–161.83	7	426	17
BETTLES FIELD	701740	66.92	–151.51	8	364	14
BIG DELTA ALLEN AAF	702670	64.00	–145.72	8	292	11
CAPE LISBURNE(AWOS)	701040	68.88	–166.13	8	297	12
CAPE NEWENHAM AFS	703050	58.65	–162.07	7	829	33
CAPE ROMANZOFF AWOS	702120	61.78	–166.03	8	678	27
COLD BAY ARPT	703160	55.21	–162.72	7	993	39
CORDOVA	702960	60.49	–145.45	7	2601	102
DEADHORSE	700637	70.19	–148.48	8	111	4
DILLINGHAM MUNI	703210	59.05	–158.52	7	656	26
DUTCH HARBOR	704890	53.90	–166.55	7	1552	61
FAIRBANKS INTL ARPT	702610	64.82	–147.86	8	308	12
FAIRBANKS/EIELSON A	702650	64.65	–147.07	8	329	13
FIVE FINGER ISLAND	994080	57.27	–133.63	6A	1463	58
FORT YUKON	701940	66.57	–145.27	8	165	7
FT. RICHARDSON/BRYA	702700	61.27	–149.65	7	424	17
GALENA A.	702220	64.73	–156.93	8	351	14
GULKANA INTERMEDIATE FIELD	702710	62.16	–145.46	7	279	11
HOMER ARPT	703410	59.65	–151.48	7	645	25
HOOPER BAY	702186	61.52	–166.13	8	668	26
ILIAMNA ARPT	703400	59.75	–154.92	7	711	28
INDIAN MTN AFS AWOS	701730	66.00	–153.70	8	469	18
JUNEAU INT'L ARPT	703810	58.36	–134.58	6A	1453	57
KAKE SEAPLANE BASE	703855	56.97	–133.95	6A	2766	109
KENAI MUNICIPAL AP	702590	60.58	–151.24	7	482	19
KETCHIKAN INTL AP	703950	55.36	–131.71	5A	4099	161
KING SALMON ARPT	703260	58.68	–156.65	7	504	20
KLAWOCK	703894	55.58	–133.08	5A	2495	98

TABLE A-4 United States Stations and Climate Zones *(Continued)*
[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KODIAK AIRPORT	703500	57.75	–152.49	6A	1723	68
KOTZEBUE RALPH WEIN MEMORIAL	701330	66.89	–162.60	8	245	10
LAKE HOOD SEAPLANE	702725	61.18	–149.96	7	403	16
MCGRATH ARPT	702310	62.95	–155.60	8	422	17
MCKINLEY PARK	702645	63.73	–148.92	8	407	16
MEKORYUK	702185	60.37	–166.27	7	403	16
MIDDLETON ISL. AMOS	703430	59.43	–146.33	7	1299	51
MINCHUMINA	702460	63.90	–152.27	8	338	13
NENANA MUNICIPAL AP	702600	64.55	–149.07	8	316	12
NOME MUNICIPAL ARPT	702000	64.51	–165.44	8	392	15
NORTHWAY AIRPORT	702910	62.96	–141.95	8	244	10
PALMER MUNICIPAL	702740	61.60	–149.09	7	446	18
PETERSBURG	703860	56.82	–132.97	6A	2550	100
POINT HOPE (AWOS)	701043	68.35	–166.80	8	522	21
PORT HEIDEN	703330	56.95	–158.62	7	401	16
SAINT MARY`S (AWOS)	702005	62.07	–163.30	8	498	20
SAND POINT	703165	55.32	–160.52	7	768	30
SEWARD	702770	60.12	–149.45	7	1660	65
SHEMYA AFB	704140	52.72	174.12	8	804	32
SHISHMAREF (AWOS)	701195	66.27	–166.05	8	317	12
SITKA JAPONSKI AP	703710	57.05	–135.36	5A	2218	87
SKAGWAY AIRPORT	703620	59.46	–135.31	6A	1018	40
SOLDOTNA	702595	60.47	–151.03	7	474	19
SPARREVOHN AFS	702350	61.10	–155.57	7	626	25
ST PAUL ISLAND ARPT	703080	57.16	–170.22	7	582	23
TALKEETNA STATE ARPT	702510	62.32	–150.09	7	727	29
TATALINA LRRS	702315	62.88	–155.97	8	427	17
TIN CITY AFS (AWOS)	701170	65.57	–167.92	8	360	14
TOGIAC VILLAGE AWOS	703606	59.05	–160.40	7	717	28
UNALAKLEET FIELD	702070	63.88	–160.80	8	327	13
VALDEZ PIONEER FIEL	702756	61.13	–146.25	7	1673	66
VALDEZ WSO	702750	61.13	–146.35	7	1673	66
WHITTIER	702757	60.77	–148.68	7	4305	169
WRANGELL	703870	56.48	–132.37	6A	2010	79
YAKUTAT STATE ARPT	703610	59.51	–139.63	7	3778	149
Arizona (AZ)						
CASA GRANDA (AWOS)	722748	32.95	–111.77	2B	222	9
DAVIS-MONTHAN AFB	722745	32.17	–110.88	2B	292	11
DOUGLAS BISBEE-DOUGLAS INTL A	722735	31.47	–109.60	3B	316	12
FLAGSTAFF AIRPORT	723750	35.13	–111.67	5B	573	23
GRAND CANYON NATL P	723783	35.95	–112.13	5B	347	14
KINGMAN (AMOS)	723700	35.26	–113.94	3B	251	10
LUKE AFB/PHOENIX	722785	33.53	–112.38	2B	223	9
NOGALES INTL	722728	31.42	–110.85	3B	433	17
PAGE MUNI (AMOS)	723710	36.93	–111.45	5B	179	7
PHOENIX SKY HARBOR INTL AP	722780	33.44	–111.99	2B	192	8
PRESCOTT LOVE FIELD	723723	34.65	–112.42	4B	463	18
SAFFORD (AMOS)	722747	32.82	–109.68	3B	240	9
TUCSON INTERNATIONAL AP	722740	32.13	–110.96	2B	292	11
WINSLOW MUNICIPAL AP	723740	35.02	–110.72	5B	193	8
YUMA INTL AIRPORT	722800	32.65	–114.60	2B	95	4
YUMA MCAS	699604	32.65	–114.62	2B	95	4

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Arkansas (AR)						
BATESVILLE (AWOS)	723448	35.73	–91.65	3A	1252	49
BENTONVILLE (AWOS)	723444	36.35	–94.22	4A	1172	46
EAKER AFB	723408	35.97	–89.95	3A	1257	50
EL DORADO GOODWIN FIELD	723419	33.22	–92.81	3A	1223	48
FAYETTEVILLE DRAKE FIELD	723445	36.01	–94.17	4A	1097	43
FLIPPIN (AWOS)	723447	36.30	–92.47	4A	1105	44
FORT SMITH REGIONAL AP	723440	35.33	–94.37	3A	1165	46
HARRISON FAA AP	723446	36.26	–93.16	4A	1158	46
JONESBORO MUNI	723407	35.83	–90.63	3A	1182	47
LITTLE ROCK ADAMS FIELD	723403	34.75	–92.23	3A	1250	49
LITTLE ROCK AFB	723405	34.92	–92.15	3A	1263	50
LITTLE ROCK/ADAMS F	723400	34.83	–92.25	3A	1263	50
PINE BLUFF FAA AP	723417	34.18	–91.94	3A	1292	51
ROGERS (AWOS)	723449	36.37	–94.10	4A	1172	46
SILOAM SPRING(AWOS)	723443	36.18	–94.48	4A	1161	46
STUTTGART (AWOS)	723416	34.60	–91.57	3A	1268	50
TEXARKANA WEBB FIELD	723418	33.45	–94.01	3A	1253	49
WALNUT RIDGE (AWOS)	723406	36.13	–90.92	3A	1206	47
California (CA)						
ALAMEDA NAS	745060	37.73	–122.32	3C	454	18
ARCATA AIRPORT	725945	40.98	–124.11	4C	1192	47
BAKERSFIELD MEADOWS FIELD	723840	35.43	–119.06	3B	156	6
BEALE AFB/MARYSVILE	724837	39.13	–121.43	3B	710	28
BISHOP AIRPORT	724800	37.37	–118.36	4B	138	5
BLUE CANYON AP	725845	39.29	–120.71	5B	1848	73
BLYTHE RIVERSIDE CO ARPT	747188	33.62	–114.72	3B	88	3
BURBANK-GLENDALE-PASSADENA AP	722880	34.20	–118.36	3B	433	17
CAMARILLO (AWOS)	723926	34.22	–119.08	3C	384	15
CAMP PENDLETON MCAS	722926	33.30	–117.35	3B	315	12
CARLSBAD/PALOMAR	722927	33.13	–117.28	3B	285	11
CASTLE AFB/MERCED	724810	37.38	–120.57	3B	325	13
CRESCENT CITY FAA AI	725946	41.78	–124.24	4C	2056	81
DAGGETT BARSTOW–DAGGETT AP	723815	34.85	–116.79	3B	100	4
EDWARDS AFB	723810	34.90	–117.88	3B	129	5
EL TORO MCAS	690140	33.68	–117.73	3B	327	13
EUREKA	725940	40.80	–124.17	4C	993	39
FRESNO YOSEMITE INTL AP	723890	36.78	–119.72	3B	279	11
FULLERTON MUNICIPAL	722976	33.87	–117.98	3B	336	13
GEORGE AFB	723825	34.58	–117.38	3B	123	5
HAYWARD AIR TERM	724935	37.66	–122.12	3C	517	20
IMPERIAL	747185	32.83	–115.58	2B	61	2
JACK NORTHROP FLD H	722956	33.92	–118.33	3B	317	12
LANCASTER GEN WM FOX FIELD	723816	34.74	–118.22	3B	190	7
LEMOORE REEVES NAS	747020	36.33	–119.95	3B	175	7
LIVERMORE MUNICIPAL	724927	37.69	–121.82	3C	378	15
LOMPOC (AWOS)	722895	34.67	–120.47	3C	402	16
LONG BEACH DAUGHERTY FLD	722970	33.83	–118.16	3B	331	13
LOS ANGELES INTL ARPT	722950	33.94	–118.41	3B	317	12
MARCH AFB/RIVERSIDE	722860	33.88	–117.27	3B	313	12
MCCLELLAN AFB	724836	38.67	–121.40	3B	420	17
MODESTO CITY-COUNTY AP	724926	37.63	–120.95	3B	314	12
MONTAGUE SISKIYOU COUNTY AP	725955	41.78	–122.47	5B	472	19
MONTEREY PENINSULA	724915	36.58	–121.85	3C	438	17

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MOUNT SHASTA	725957	41.33	–122.33	5B	1030	41
MOUNTAIN VIEW MOFFETT FLD NAS	745090	37.42	–122.05	3C	354	14
NAPA CO. AIRPORT	724955	38.21	–122.28	3C	671	26
NORTON AFB/SAN BERN	722866	34.10	–117.23	3B	333	13
OAKLAND METROPOLITAN ARPT	724930	37.76	–122.22	3C	454	18
ONTARIO	722865	34.07	–117.65	3B	438	17
PALM SPRINGS INTL	722868	33.83	–116.50	3B	125	5
PALM SPRINGS THERMAL AP	747187	33.63	–116.16	3B	64	3
PASO ROBLES MUNICIPAL ARPT	723965	35.67	–120.63	3C	377	15
POINT ARENA	994120	38.95	–123.73	3C	1098	43
POINT ARGUELLO	994210	34.57	–120.63	3C	351	14
POINT MUGU NF	723910	34.12	–119.12	3C	285	11
PORTERVILLE (AWOS)	723895	36.03	–119.07	3B	286	11
PT.PIEDRAS BLANCA	723900	35.67	–121.29	3C	505	20
RED BLUFF MUNICIPAL ARPT	725910	40.15	–122.25	3B	575	23
REDDING MUNICIPAL ARPT	725920	40.52	–122.31	3B	963	38
RIVERSIDE MUNI	722869	33.95	–117.43	3B	313	12
SACRAMENTO EXECUTIVE ARPT	724830	38.51	–121.49	3B	544	21
SACRAMENTO MATHER AIRPORT	724833	38.55	–121.29	3B	544	21
SACRAMENTO METROPOLITAN AP	724839	38.70	–121.59	3B	491	19
SALINAS MUNICIPAL AP	724917	36.66	–121.61	3C	314	12
SAN DIEGO LINDBERGH FIELD	722900	32.74	–117.17	3B	251	10
SAN DIEGO MIRAMAR NAS	722930	32.87	–117.15	3B	269	11
SAN DIEGO NORTH ISLAND NAS	722906	32.70	–117.20	3B	251	10
SAN DIEGO/BROWN FLD	722904	32.57	–116.98	3B	338	13
SAN DIEGO/MONTGOMER	722903	32.82	–117.13	3B	269	11
SAN FRANCISCO INTL AP	724940	37.62	–122.40	3C	555	22
SAN JOSE INTL AP	724945	37.36	–121.93	3C	357	14
SAN LUIS CO RGNL	722897	35.23	–120.63	3C	659	26
SANDBERG	723830	34.74	–118.72	3B	392	15
SANTA BARBARA MUNICIPAL AP	723925	34.43	–119.84	3C	406	16
SANTA MARIA PUBLIC ARPT	723940	34.92	–120.47	3C	326	13
SANTA ROSA (AWOS)	724957	38.51	–122.81	3C	1134	45
STOCKTON METROPOLITAN ARPT	724920	37.89	–121.24	3B	355	14
TRAVIS AFB/FAIRFLD	745160	38.27	–121.93	3B	539	21
TRUCKEE-TAHOE	725846	39.32	–120.13	5B	788	31
TUSTIN MCAF	690160	33.70	–117.83	3B	327	13
UKIAH MUNICIPAL AP	725905	39.13	–123.20	3C	1068	42
VISALIA MUNI (AWOS)	723896	36.32	–119.40	3B	253	10
Colorado (CO)						
AKRON WASHINGTON CO AP	724698	40.17	–103.23	5B	399	16
ALAMOSA SAN LUIS VALLEY RGNL	724620	37.44	–105.87	6B	191	8
ASPEN PITKIN CO SAR	724676	39.22	–106.87	7	578	23
BUCKLEY ANGB/DENVER	724695	39.72	–104.75	5B	411	16
COLORADO SPRINGS MUNI AP	724660	38.81	–104.71	5B	447	18
CORTEZ/MONTEZUMA CO	724767	37.30	–108.63	5B	408	16
CRAIG-MOFFAT	725700	40.50	–107.53	6B	442	17
DENVER INTL AP	725650	39.83	–104.66	5B	382	15
DENVER STAPLETON INT'L ARPT	724690	39.77	–104.87	5B	373	15
DENVER/CENTENNIAL	724666	39.57	–104.85	5B	414	16
DURANGO/LA PLATA CO	724625	37.15	–107.75	5B	455	18
EAGLE COUNTY AP	724675	39.64	–106.92	6B	265	10
FORT COLLINS (AWOS)	724769	40.45	–105.02	5B	402	16
FORT COLLINS (SAWRS)	724697	40.58	–105.08	5B	393	15

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
GRAND JUNCTION WALKER FIELD	724760	39.13	–108.54	5B	223	9
GREELEY/WELD (AWOS)	724768	40.43	–104.63	5B	330	13
GUNNISON CO. (AWOS)	724677	38.53	–106.93	7	260	10
HAYDEN/YAMPA (AWOS)	725715	40.48	–107.22	7	513	20
LA JUNTA MUNICIPAL AP	724635	38.05	–103.53	4B	285	11
LAMAR MUNICIPAL	724636	38.07	–102.68	4B	392	15
LIMON	724665	39.19	–103.72	5B	368	14
MONTROSE CO. ARPT	724765	38.50	–107.90	5B	248	10
PUEBLO MEMORIAL AP	724640	38.29	–104.50	5B	293	12
RIFLE/GARFIELD RGNL	725717	39.53	–107.72	5B	302	12
TRINIDAD LAS ANIMAS COUNTY AP	724645	37.26	–104.34	4B	344	14
Connecticut (CT)						
BRIDGEPORT SIKORSKY MEMORIAL	725040	41.18	–73.15	5A	1056	42
HARTFORD BRADLEY INTL AP	725080	41.94	–72.68	5A	1153	45
HARTFORD BRAINARD FD	725087	41.74	–72.65	5A	1095	43
OXFORD (AWOS)	725029	41.48	–73.13	5A	1223	48
WILLIMANTIC (ASOS)	725084	41.73	–72.18	5A	1238	49
Delaware (DE)						
DOVER AFB	724088	39.13	–75.47	4A	1147	45
GEORGETOWN/SUSSEX	724093	38.68	–75.37	4A	1167	46
WILMINGTON NEW CASTLE CNTY AP	724089	39.67	–75.60	4A	1050	41
District of Columbia (DC)						
WASHINGTON DC REAGAN AP	724050	38.87	–77.03	4A	1002	39
Florida (FL)						
APALACHICOLA MUNI AP	722200	29.73	–85.03	2A	1389	55
CAPE SAN BLAS	994360	29.67	–85.37	2A	1373	54
CECIL FIELD	722067	30.22	–81.87	2A	1348	53
CRESTVIEW BOB SIKES AP	722215	30.78	–86.52	2A	1530	60
CROSS CITY AIRPORT	722120	29.55	–83.11	2A	1439	57
DAYTONA BEACH INTL AP	722056	29.18	–81.06	2A	1234	49
DESTIN FT. WALTON	722069	30.40	–86.47	2A	1625	64
EGLIN AFB/VALPARAIS	722210	30.48	–86.53	2A	1607	63
FORT LAUDERDALE HOLLYWOOD INT	722025	26.07	–80.15	1A	1626	64
FORT MYERS PAGE FIELD	722106	26.59	–81.86	2A	1390	55
GAINESVILLE REGIONAL AP	722146	29.69	–82.27	2A	1247	49
HOMESTEAD AFB	722026	25.48	–80.38	1A	1494	59
HURLBURT FIELD (AF)	747770	30.43	–86.68	2A	1607	63
JACKSONVILLE INTL ARPT	722060	30.49	–81.69	2A	1265	50
JACKSONVILLE NAS	722065	30.23	–81.68	2A	1178	46
JACKSONVILLE/CRAIG	722068	30.34	–81.52	2A	1265	50
KEY WEST INTL ARPT	722010	24.55	–81.75	1A	1015	40
KEY WEST NAS	722015	24.58	–81.68	1A	1015	40
MACDILL AFB/TAMPA	747880	27.85	–82.52	2A	1310	52
MARATHON AIRPORT	722016	24.73	–81.05	1A	1132	45
MAYPORT NS	722066	30.40	–81.42	2A	1123	44
MELBOURNE REGIONAL AP	722040	28.10	–80.65	2A	1259	50
MIAMI INTL AP	722020	25.82	–80.30	1A	1477	58
MIAMI/KENDALL-TAMIA	722029	25.65	–80.43	1A	1597	63
MOLASSES REEF	994430	25.02	–80.38	1A	1458	57
NAPLES MUNICIPAL	722038	26.15	–81.78	2A	1336	53
NASA SHUTTLE FCLTY	747946	28.62	–80.72	2A	1402	55
OCALA MUNI (AWOS)	722055	29.17	–82.22	2A	1322	52
ORLANDO EXECUTIVE AP	722053	28.55	–81.33	2A	1264	50
ORLANDO INTL ARPT	722050	28.43	–81.33	2A	1237	49

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ORLANDO SANFORD AIRPORT	722057	28.78	–81.24	2A	1298	51
PANAMA CITY BAY CO	722245	30.20	–85.68	2A	1533	60
PENSACOLA FOREST SHERMAN NAS	722225	30.35	–87.32	2A	1474	58
PENSACOLA REGIONAL AP	722223	30.47	–87.19	2A	1587	62
SARASOTA BRADENTON	722115	27.38	–82.55	2A	1392	55
SOMBRERO KEY	994450	24.62	–81.10	1A	1132	45
SOUTHWEST FLORIDA I	722108	26.53	–81.75	2A	1325	52
ST AUGSUTINE ARPT	722212	29.97	–81.33	2A	1343	53
ST PETERSBURG CLEAR	722116	27.90	–82.68	2A	1310	52
ST. AUGUSTINE	994410	29.87	–81.27	2A	1343	53
TALLAHASSEE REGIONAL AP	722140	30.39	–84.35	2A	1621	64
TAMPA INTERNATIONAL AP	722110	27.96	–82.54	2A	1158	46
TYNDALL AFB	747750	30.07	–85.58	2A	1533	60
VENICE PIER	994220	27.07	–82.45	2A	1363	54
VERO BEACH MUNICIPAL ARPT	722045	27.66	–80.42	2A	1327	52
WEST PALM BEACH INTL ARPT	722030	26.69	–80.10	1A	1557	61
WHITING FIELD NAAS	722226	30.72	–87.02	2A	1637	64
Georgia (GA)						
ALBANY DOUGHERTY COUNTY AP	722160	31.54	–84.19	2A	1192	47
ATHENS BEN EPPS AP	723110	33.95	–83.33	3A	1238	49
ATLANTA (NEXRAD)	722197	33.37	–84.55	3A	1308	51
ATLANTA HARTSFIELD INTL AP	722190	33.64	–84.43	3A	1269	50
AUGUSTA BUSH FIELD	722180	33.37	–81.97	3A	1128	44
AUGUSTA\DANIEL FLD	722181	33.47	–82.03	3A	1131	45
BRUNSWICK MALCOLM MCKINNON AP	722137	31.25	–81.39	2A	1293	51
COLUMBUS METROPOLITAN ARPT	722255	32.52	–84.94	3A	1258	50
DEKALB PEACHTREE	722196	33.87	–84.30	3A	1326	52
DOBBINS AFB/MARIETT	722270	33.92	–84.52	3A	1346	53
FORT BENNING	722250	32.33	–85.00	3A	1260	50
FULTON CO ARPT BROW	722195	33.77	–84.52	3A	1346	53
GAINESVILLE\LEE GIL	722185	34.27	–83.83	3A	1428	56
HUNTER AAF	747804	32.00	–81.13	2A	1249	49
MACON MIDDLE GA REGIONAL AP	722170	32.69	–83.65	3A	1150	45
MOODY AFB/VALDOSTA	747810	30.97	–83.20	2A	1270	50
ROME R B RUSSELL AP	723200	34.35	–85.16	3A	1340	53
SAVANNAH INTL AP	722070	32.12	–81.20	2A	1253	49
VALDOSTA WB AIRPORT	722166	30.78	–83.28	2A	1282	50
WARNER ROBINS AFB	722175	32.63	–83.60	3A	1184	47
WAYCROSS WARE CO AP	722130	31.25	–82.40	2A	1290	51
Hawaii (HI)						
BARBERS POINT NAS	911780	21.30	–158.07	1A	471	19
HILO INTERNATIONAL AP	912850	19.72	–155.05	1A	3243	128
HONOLULU INTL ARPT	911820	21.33	–157.94	1A	485	19
KAHULUI AIRPORT	911900	20.90	–156.43	1A	437	17
KANEOHE BAY MCAS	911760	21.45	–157.77	1A	828	33
KONA INTL AT KEAHOL	911975	19.73	–156.03	1A	993	39
LIHUE AIRPORT	911650	21.98	–159.34	1A	982	39
MOLOKAI (AMOS)	911860	21.15	–157.10	1A	740	29
Idaho (ID)						
BOISE AIR TERMINAL	726810	43.57	–116.22	5B	294	12
BURLEY MUNICIPAL ARPT	725867	42.54	–113.77	5B	251	10
CALDWELL (AWOS)	726813	43.63	–116.63	5B	280	11
CHALLIS	722142	44.52	–114.22	6B	197	8
COEUR D'ALENE(AWOS)	727834	47.77	–116.82	5B	656	26

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ELK CITY (RAMOS)	725784	45.82	–115.43	5B	876	34
IDAHO FALLS FANNING FIELD	725785	43.52	–112.07	6B	269	11
JOSLIN FLD MAGIC VA	725866	42.48	–114.48	5B	263	10
LEWISTON NEZ PERCE CNTY AP	727830	46.38	–117.01	5B	308	12
MCCALL ARPT	725864	44.88	–116.10	6B	702	28
MOUNTAIN HOME AFB	726815	43.05	–115.87	5B	229	9
MULLAN (AWRS)	727836	47.47	–115.80	5B	997	39
POCATELLO REGIONAL AP	725780	42.92	–112.57	5B	304	12
SALMON/LEMHI (AWOS)	726865	45.12	–113.88	6B	253	10
Illinois (IL)						
AURORA MUNICIPAL	744655	41.77	–88.47	5A	915	36
CAHOKIA/ST. LOUIS	725314	38.57	–90.15	4A	973	38
CHICAGO MIDWAY AP	725340	41.79	–87.75	5A	908	36
CHICAGO OHARE INTL AP	725300	41.99	–87.91	5A	904	36
DECATUR	725316	39.83	–88.87	5A	988	39
GLENVIEW NAS	725306	42.08	–87.82	5A	932	37
LAWRENCEVILLE\VIN.	725342	38.77	–87.60	4A	1106	44
MARSEILLES ISLAND	744600	41.37	–88.68	5A	883	35
MATTOON/CHARLESTON	725317	39.48	–88.28	4A	1058	42
MOLINE QUAD CITY INTL AP	725440	41.47	–90.52	5A	974	38
MOUNT VERNON (AWOS)	724335	38.32	–88.87	4A	1047	41
PEORIA GREATER PEORIA AP	725320	40.67	–89.68	5A	913	36
QUINCY MUNI BALDWIN FLD	724396	39.94	–91.19	5A	993	39
ROCKFORD GREATER ROCKFORD AP	725430	42.20	–89.09	5A	929	37
SCOTT AFB/BELLEVILL	724338	38.55	–89.85	4A	1028	40
SOUTHERN ILLINOIS	724336	37.77	–89.25	4A	1112	44
SPRINGFIELD CAPITAL AP	724390	39.85	–89.68	5A	900	35
STERLING ROCKFALLS	725326	41.75	–89.67	5A	914	36
UNIV OF ILLINOIS WI	725315	40.03	–88.27	5A	1003	40
W. CHICAGO/DU PAGE	725305	41.92	–88.25	5A	908	36
Indiana (ID)						
EVANSVILLE REGIONAL AP	724320	38.04	–87.54	4A	1118	44
FORT WAYNE INTL AP	725330	41.01	–85.21	5A	918	36
GRISSOM ARB	725335	40.65	–86.15	5A	1030	41
HUNTINGBURG	724365	38.25	–86.95	4A	1159	46
INDIANAPOLIS INTL AP	724380	39.71	–86.27	4A	1036	41
LAFAYETTE PURDUE UNIV AP	724386	40.41	–86.94	5A	905	36
MONROE CO	724375	39.13	–86.62	4A	1121	44
SOUTH BEND MICHIANA RGNL AP	725350	41.71	–86.33	5A	981	39
TERRE HAUTE/HULMAN	724373	39.45	–87.32	4A	1012	40
Iowa (IA)						
AMES MUNI ARPT	725472	42.00	–93.62	5A	848	33
ANKENY REGIONAL ARP	725466	41.68	–93.55	5A	825	32
ATLANTIC	725453	41.40	–95.05	5A	762	30
BOONE MUNI	725486	42.05	–93.85	5A	863	34
BURLINGTON MUNICIPAL AP	725455	40.78	–91.13	5A	879	35
CARROLL	725468	42.05	–94.78	5A	790	31
CEDAR RAPIDS MUNICIPAL AP	725450	41.88	–91.71	5A	873	34
CHARITON	725469	41.03	–93.37	5A	896	35
CHARLES CITY	725463	43.07	–92.62	5A	868	34
CLARION	725458	42.75	–93.77	5A	837	33
CLINTON MUNI (AWOS)	725473	41.83	–90.33	5A	881	35
CRESTON	725474	41.02	–94.37	5A	870	34
DAVENPORT NEXRAD	725349	41.62	–90.58	5A	898	35

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
DES MOINES INTL AP	725460	41.54	–93.67	5A	863	34
DUBUQUE REGIONAL AP	725470	42.40	–90.70	5A	961	38
ESTHERVILLE MUNI	726499	43.40	–94.75	6A	710	28
FAIR FIELD	726498	41.05	–91.98	5A	951	37
FORT DODGE (AWOS)	725490	42.55	–94.18	5A	857	34
KEOKUK MUNI	725456	40.47	–91.43	5A	937	37
MARSHALL TOWN MUNI	725461	42.10	–92.92	5A	867	34
MASON CITY MUNICIPAL ARPT	725485	43.16	–93.33	6A	864	34
OTTUMWA INDUSTRIAL AP	725465	41.11	–92.45	5A	901	35
SIOUX CITY SIOUX GATEWAY AP	725570	42.39	–96.38	5A	682	27
SPENCER	726500	43.17	–95.15	6A	759	30
STORM LAKE	725496	42.60	–95.23	5A	812	32
WASHINGTON	725454	41.28	–91.67	5A	962	38
WATERLOO MUNICIPAL AP	725480	42.55	–92.40	5A	874	34
WEBSTER CITY	725478	42.43	–93.87	5A	864	34
Kansas (KS)						
CHANUTE MARTIN JOHNSON AP	724507	37.67	–95.48	4A	987	39
COFFEYVILLE MUNI	724519	37.10	–95.57	4A	1052	41
CONCORDIA BLOSSER MUNI AP	724580	39.55	–97.65	4A	723	28
DODGE CITY REGIONAL AP	724510	37.77	–99.97	4A	546	21
ELKHART (AWOS)	724604	37.00	–101.90	4A	445	18
FT RILEY/MARSHALL A	724550	39.05	–96.77	4A	830	33
GARDEN CITY MUNICIPAL AP	724515	37.93	–100.73	4A	500	20
GOODLAND RENNER FIELD	724650	39.37	–101.69	5A	466	18
GREAT BEND (AWOS)	724517	38.35	–98.87	4A	620	24
HAYS MUNI (AWOS)	724518	38.85	–99.27	4A	577	23
HILL CITY MUNICIPAL AP	724655	39.38	–99.83	4A	560	22
LAWRENCE MUNI ARPT	724508	39.00	–95.22	4A	999	39
LIBERAL MUNI	724516	37.03	–100.95	4A	499	20
MANHATTAN RGNL	724555	39.13	–96.67	4A	847	33
MCCONNELL AFB	724505	37.62	–97.27	4A	821	32
MEDICINE LODGE ASOS	724520	37.28	–98.55	4A	664	26
NEWTON (AWOS)	724509	38.05	–97.28	4A	801	32
OLATHE/JOHNSON CO.	724468	38.85	–94.73	4A	1012	40
PARSONS\TRI CITY	745431	37.33	–95.52	4A	1060	42
RUSSELL MUNICIPAL AP	724585	38.87	–98.83	4A	667	26
SALINA MUNICIPAL AP	724586	38.81	–97.66	4A	806	32
TOPEKA FORBES FIELD	724565	38.95	–95.66	4A	899	35
TOPEKA MUNICIPAL AP	724560	39.07	–95.63	4A	901	35
WICHITA MID-CONTINENT AP	724500	37.65	–97.43	4A	795	31
WICHITA/COL. JABARA	724504	37.75	–97.22	4A	860	34
WINFIELD\ARK CITY	724502	37.30	–97.00	4A	876	34
Kentucky (KY)						
BOWLING GREEN WARREN CO AP	746716	36.98	–86.44	4A	1269	50
CAPITAL CITY ARPT	724233	38.18	–84.90	4A	1137	45
CINCINNATI NORTHERN KY AP	724210	39.04	–84.67	4A	1003	39
FORT CAMPBELL (AAF)	746710	36.67	–87.50	4A	1250	49
FORT KNOX/GODMAN	724240	37.90	–85.97	4A	1153	45
HENDERSON CITY	724238	37.82	–87.68	4A	1126	44
JACKSON JULIAN CARROLL AP	724236	37.59	–83.31	4A	1203	47
LEXINGTON BLUEGRASS AP	724220	38.04	–84.61	4A	1161	46
LONDON-CORBIN AP	724243	37.09	–84.08	4A	1158	46
LOUISVILLE BOWMAN FIELD	724235	38.23	–85.66	4A	1139	45
LOUISVILLE STANDIFORD FIELD	724230	38.18	–85.73	4A	1139	45

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
PADUCAH BARKLEY REGIONAL AP	724350	37.06	–88.77	4A	1235	49
SOMERSET(AWOS)	724354	38.00	–84.60	4A	1161	46
Louisiana (LA)						
ALEXANDRIA ESLER REGIONAL AP	722487	31.40	–92.30	2A	1348	53
ALEXANDRIA INTERNATIONAL	747540	31.33	–92.55	2A	1518	60
BARKSDALE AFB	722485	32.50	–93.67	3A	1288	51
BATON ROUGE RYAN ARPT	722317	30.54	–91.15	2A	1532	60
FORT POLK (ARMY)	722390	31.05	–93.20	3A	1512	60
GRAND ISLE	994290	29.27	–89.95	2A	1584	62
LAFAYETTE REGIONAL AP	722405	30.21	–91.99	2A	1562	61
LAKE CHARLES REGIONAL ARPT	722400	30.13	–93.23	2A	1440	57
MONROE REGIONAL AP	722486	32.51	–92.04	3A	1347	53
NEW ORLEANS ALVIN CALLENDER F	722316	29.83	–90.03	2A	1566	62
NEW ORLEANS INTL ARPT	722310	29.99	–90.25	2A	1577	62
NEW ORLEANS LAKEFRONT AP	722315	30.04	–90.03	2A	1564	62
PATTERSON MEMORIAL	722329	29.72	–91.33	2A	1604	63
SALT POINT (RAMOS)	722403	29.60	–91.30	2A	1604	63
SHREVEPORT DOWNTOWN	722484	32.54	–93.74	3A	1234	49
SHREVEPORT REGIONAL ARPT	722480	32.45	–93.82	3A	1234	49
SOUTHWEST PASS	994010	28.90	–89.43	2A	1383	54
Maine (ME)						
AUBURN-LEWISTON	726184	44.05	–70.28	6A	1135	45
AUGUSTA AIRPORT	726185	44.32	–69.80	6A	1050	41
BANGOR INTERNATIONAL AP	726088	44.81	–68.82	6A	1000	39
BAR HARBOR (AWOS)	726077	44.45	–68.37	6A	1238	49
BRUNSWICK NAS	743920	43.90	–69.93	6A	1183	47
CARIBOU MUNICIPAL ARPT	727120	46.87	–68.03	7	954	38
GREENVILLE (AMOS)	726190	45.47	–69.58	6A	1106	44
HOULTON INTL ARPT	727033	46.12	–67.79	7	982	39
LORING AFB/LIMESTON	727125	46.95	–67.88	7	998	39
MATINICUS ROCK	994370	43.78	–68.87	6A	1246	49
MT DESERT ROCK	994060	43.97	–68.12	6A	1325	52
NORTHERN AROOSTOOK	726083	47.28	–68.30	7	1008	40
PORTLAND INTL JETPORT	726060	43.64	–70.30	6A	1140	45
PRESQUE ISLE MUNICIP	727130	46.69	–68.03	7	898	35
ROCKLAND/KNOX(AWOS)	726079	44.07	–69.10	6A	1262	50
SANFORD MUNI (AWOS)	726064	43.40	–70.72	6A	1229	48
WATERVILLE (AWOS)	726073	44.53	–69.68	6A	1044	41
WISCASSET	727135	43.97	–69.72	6A	1190	47
Maryland (MD)						
ANDREWS AFB	745940	38.82	–76.87	4A	1072	42
BALTIMORE BLT-WASHNGTN INT'L	724060	39.17	–76.68	4A	1052	41
PATUXENT RIVER NAS	724040	38.28	–76.40	4A	1102	43
SALISBURY WICOMICO CO AP	724045	38.34	–75.51	4A	1155	45
THOMAS POINT	994400	38.90	–76.43	4A	1112	44
Massachusetts (MA)						
BARNSTABLE MUNI BOA	725067	41.67	–70.27	5A	1113	44
BOSTON LOGAN INT'L ARPT	725090	42.36	–71.01	5A	1075	42
BUZZARDS BAY	994140	41.38	–71.03	5A	1173	46
CHATHAM MUNI ARPT	725069	41.68	–70.00	5A	1431	56
LAWRENCE MUNI	744904	42.72	–71.12	5A	1083	43
MARTHAS VINEYARD	725066	41.40	–70.62	5A	1151	45
NEW BEDFORD RGNL	725065	41.67	–70.95	5A	1191	47
NORWOOD MEMORIAL	725098	42.18	–71.18	5A	1182	47

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
OTIS ANGB	725060	41.65	–70.52	5A	1154	45
PLYMOUTH MUNICIPAL	725064	41.92	–70.73	5A	1290	51
PROVINCETOWN (AWOS)	725073	42.07	–70.22	5A	1080	43
SOUTH WEYMOUTH NAS	725097	42.15	–70.93	5A	1112	44
WORCESTER REGIONAL ARPT	725095	42.27	–71.88	5A	1193	47
Michigan (MI)						
ALPENA COUNTY REGIONAL AP	726390	45.07	–83.58	6A	733	29
ANTRIM CO ARPT	727436	44.98	–85.20	6A	821	32
BENTON HARBOR/ROSS	726355	42.13	–86.43	5A	879	35
CADILLAC WEXFORD CO AP	726384	44.28	–85.42	6A	805	32
CHIPPEWA CO INTL	727344	46.25	–84.47	6A	820	32
COPPER HARBOR RAMOS	725387	47.45	–87.90	7	761	30
DETROIT CITY AIRPORT	725375	42.41	–83.01	5A	823	32
DETROIT METROPOLITAN ARPT	725370	42.22	–83.35	5A	812	32
DETROIT WILLOW RUN AP	725376	42.23	–83.53	5A	815	32
ESCANABA (AWOS)	726480	45.75	–87.03	6A	755	30
FLINT BISHOP INTL ARPT	726370	42.97	–83.75	5A	770	30
GRAND RAPIDS KENT COUNTY INT'	726350	42.88	–85.52	5A	931	37
GROSSE ISLE ARPT	725373	42.10	–83.15	5A	844	33
HANCOCK HOUGHTON CO AP	727440	47.17	–88.51	6A	806	32
HARBOR BEACH(RAMOS)	725386	44.02	–82.80	5A	828	33
HOLLAND/TULIP CITY	725394	42.75	–86.10	5A	875	34
HOUGHTON LAKE ROSCOMMON CO AR	726380	44.37	–84.69	6A	721	28
HOWELL	725378	42.63	–83.98	5A	822	32
IRON MOUNTAIN/FORD	727437	45.82	–88.12	6A	710	28
IRONWOOD (AWOS)	727445	46.53	–90.13	6A	887	35
JACKSON REYNOLDS FIELD	725395	42.26	–84.46	5A	776	31
KALAMAZOO BATTLE CR	726357	42.23	–85.55	5A	924	36
LANSING CAPITAL CITY ARPT	725390	42.78	–84.58	5A	776	31
MACKINACK ISLAND	727435	45.87	–84.63	6A	774	30
MANISTEE (AWOS)	726385	44.27	–86.25	6A	857	34
MANISTIQUE (AMOS)	726399	45.95	–86.23	6A	807	32
MARQUETTE COUNTY ARPT	727430	46.53	–87.55	7	915	36
MENOMINEE (AWOS)	726487	45.13	–87.63	6A	748	29
MUSKEGON COUNTY ARPT	726360	43.17	–86.24	5A	828	33
NEWBERRY LUCE CO.	726394	46.32	–85.45	6A	799	31
OAKLAND CO INTL	726375	42.67	–83.42	5A	831	33
OSCODA WURTSMITH AFB	726395	44.45	–83.37	6A	734	29
PASSAGE ISLAND	994090	48.22	–88.37	7	832	33
PELLSTON EMMET COUNTY AP	727347	45.57	–84.80	6A	815	32
ROCK OF AGES	994130	47.87	–89.32	7	738	29
SAGINAW TRI CITY INTL AP	726379	43.53	–84.08	5A	789	31
SAULT STE MARIE SANDERSON FIE	727340	46.47	–84.37	6A	851	34
SELFRIDGE ANGB	725377	42.62	–82.83	5A	789	31
ST.CLAIR COUNTY INT	725384	42.92	–82.53	5A	787	31
STANNARD ROCK	994200	47.18	–87.22	7	891	35
STURGIS\KIRSH MUNI	725383	41.82	–85.43	5A	946	37
TRAVERSE CITY CHERRY CAPITAL	726387	44.74	–85.58	6A	772	30
Minnesota (MN)						
AITKIN NDB(AWOS)	727504	46.55	–93.68	7	736	29
ALBERT LEA (AWOS)	726589	43.68	–93.37	6A	803	32
ALEXANDRIA MUNICIPAL AP	726557	45.88	–95.39	6A	649	26
AUSTIN MUNI	727566	43.67	–92.93	6A	816	32
BAUDETTE INTERNATIONAL AP	727476	48.73	–94.61	7	572	23

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BEMIDJI MUNICIPAL	727550	47.50	–94.93	7	631	25
BENSON MUNI	727507	45.32	–95.65	6A	676	27
BRAINERD/WIELAND	726555	46.40	–94.13	7	671	26
CAMBRIDGE MUNI	727503	45.57	–93.27	6A	767	30
CLOQUET (AWOS)	726558	46.70	–92.50	7	786	31
CRANE LAKE (AWOS)	727473	46.27	–92.57	7	794	31
CROOKSTON MUNI FLD	727452	47.85	–96.62	7	518	20
DETROIT LAKES(AWOS)	727457	46.83	–95.88	6A	664	26
DULUTH HARBOR (CGS)	727456	46.77	–92.08	7	746	29
DULUTH INTERNATIONAL ARPT	727450	46.84	–92.19	7	770	30
ELY MUNI	727459	47.82	–91.83	7	723	28
EVELETH MUNI (AWOS)	727474	47.40	–92.50	7	688	27
FAIRMONT MUNI(AWOS)	726586	43.65	–94.42	6A	831	33
FARIBAULT MUNI AWOS	726563	44.33	–93.32	6A	770	30
FERGUS FALLS(AWOS)	726560	46.28	–96.15	6A	587	23
FLYING CLOUD	726579	44.82	–93.45	6A	767	30
FOSSTON(AWOS)	727505	47.58	–95.77	7	620	24
GLENWOOD (ASOS)	726547	45.65	–95.32	6A	659	26
GRAND MARAIS MUNI	727454	47.83	–90.38	7	735	29
GRAND RAPIDS(AWOS)	727458	47.22	–93.52	7	709	28
HALLOCK	727478	48.78	–96.95	7	479	19
HIBBING CHISHOLM-HIBBING AP	727455	47.39	–92.84	7	646	25
HUTCHINSON (AWOS)	726569	44.87	–94.38	6A	730	29
INTERNATIONAL FALLS INTL AP	727470	48.57	–93.40	7	743	29
LITCHFIELD MUNI	726583	45.10	–94.50	6A	732	29
LITTLE FALLS (AWOS)	726578	45.95	–94.35	6A	689	27
MANKATO(AWOS)	726585	44.22	–93.92	6A	764	30
MARSHALL/RYAN(AWOS)	726559	44.45	–95.82	6A	658	26
MINNEAPOLIS/BLAINE	726577	45.15	–93.22	6A	808	32
MINNEAPOLIS/CRYSTAL	726575	45.07	–93.35	6A	788	31
MINNEAPOLIS-ST PAUL INT'L ARP	726580	44.88	–93.23	6A	738	29
MONTEVIDEO (AWOS)	726553	44.97	–95.72	6A	654	26
MORA MUNI (AWOS)	727475	45.88	–93.27	6A	721	28
MORRIS MUNI (AWOS)	726565	45.72	–95.97	6A	630	25
NEW ULM MUNI (AWOS)	726567	44.32	–94.50	6A	750	30
ORR	726544	48.02	–92.87	7	703	28
OWATONNA (AWOS)	726568	44.12	–93.25	6A	792	31
PARK RAPIDS MUNICIPAL AP	727453	46.90	–95.07	7	642	25
PEQUOT LAKE (AMOS)	727500	46.60	–94.32	7	684	27
PIPESTONE (AWOS)	726566	43.98	–96.32	6A	653	26
PRINCETON MUNI	726682	45.55	–93.60	6A	776	31
RED WING	726564	44.58	–92.48	6A	815	32
REDWOOD FALLS MUNI	726556	44.55	–95.08	6A	679	27
ROCHESTER INTERNATIONAL ARPT	726440	43.90	–92.49	6A	785	31
ROSEAU MUNI (AWOS)	727477	48.85	–95.70	7	532	21
SILVER BAY	727556	47.20	–91.40	7	773	30
SOUTH ST PAUL MUNI	726603	44.85	–93.15	6A	738	29
ST CLOUD REGIONAL ARPT	726550	45.55	–94.05	6A	710	28
ST JAMES MUNI ARPT	726554	43.98	–94.55	6A	731	29
ST PAUL DOWNTOWN AP	726584	44.93	–93.05	6A	786	31
THIEF RIVER(AWOS)	727555	48.07	–96.18	7	604	24
TOFTE (RAMOS)	727554	47.58	–90.83	7	822	32
TWO HARBORS	727444	47.05	–91.75	7	763	30
WHEATON NDB (AWOS)	727533	45.70	–96.50	6A	584	23

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
WILLMAR	726576	45.12	–95.08	6A	736	29
WINONA MUNI (AWOS)	726588	44.08	–91.70	5A	854	34
WORTHINGTON (AWOS)	726587	43.65	–95.58	6A	708	28
Mississippi (MS)						
COLUMBUS AFB	723306	33.65	–88.45	3A	1470	58
GOLDEN TRI(AWOS)	723307	33.45	–88.58	3A	1453	57
GREENWOOD LEFLORE ARPT	722359	33.50	–90.08	3A	1352	53
HATTIESBURG LAUREL	722348	31.47	–89.33	3A	1518	60
JACKSON INTERNATIONAL AP	722350	32.32	–90.08	3A	1402	55
KEESLER AFB/BILOXI	747686	30.42	–88.92	2A	1644	65
MCCOMB PIKE COUNTY AP	722358	31.18	–90.47	3A	1575	62
MERIDIAN KEY FIELD	722340	32.33	–88.75	3A	1433	56
MERIDIAN NAAS	722345	32.55	–88.57	3A	1431	56
NATCHEZ/HARDY(AWOS)	722357	31.62	–91.30	3A	1452	57
TUPELO C D LEMONS ARPT	723320	34.26	–88.77	3A	1439	57
Missouri (MO)						
CAPE GIRARDEAU MUNICIPAL AP	723489	37.23	–89.57	4A	1174	46
COLUMBIA REGIONAL AIRPORT	724450	38.82	–92.22	4A	1004	40
JEFFERSON CITY MEM	724458	38.58	–92.15	4A	1011	40
JOPLIN MUNICIPAL AP	723495	37.15	–94.50	4A	1108	44
KAISER MEM (AWOS)	724459	38.10	–92.55	4A	1036	41
KANSAS CITY DOWNTOWN AP	724463	39.12	–94.59	4A	964	38
KANSAS CITY INT'L ARPT	724460	39.30	–94.72	4A	961	38
KIRKSVILLE REGIONAL AP	724455	40.10	–92.54	5A	935	37
POPLAR BLUFF(AMOS)	723300	36.77	–90.47	4A	1206	47
SEDALIA MEMORIAL	724453	38.70	–93.18	4A	1045	41
SPICKARD (AMOS)	725400	40.25	–93.72	5A	906	36
SPRINGFIELD REGIONAL ARPT	724400	37.24	–93.39	4A	1097	43
ST LOUIS LAMBERT INT'L ARPT	724340	38.75	–90.37	4A	994	39
ST LOUIS SPIRIT OF ST LOUIS A	724345	38.66	–90.66	4A	1025	40
VICHY ROLLA NATL ARPT	724456	38.13	–91.77	4A	958	38
WHITEMAN AFB	724467	38.73	–93.55	4A	1058	42
Montana (MT)						
BILLINGS LOGAN INT'L ARPT	726770	45.81	–108.54	6B	357	14
BOZEMAN GALLATIN FIELD	726797	45.79	–111.15	6B	368	14
BUTTE BERT MOONEY ARPT	726785	45.95	–112.51	6B	311	12
CUT BANK MUNI AP	727796	48.61	–112.38	6B	298	12
DILLON AIRPORT	726796	45.26	–112.55	6B	291	11
GLASGOW INTL ARPT	727680	48.21	–106.62	6B	287	11
GLENDIVE(AWOS)	726676	47.13	–104.80	6B	335	13
GREAT FALLS	727760	47.45	–111.38	6B	363	14
GREAT FALLS INTL ARPT	727750	47.47	–111.38	6B	363	14
HAVRE CITY-COUNTY AP	727770	48.56	–109.78	6B	314	12
HELENA REGIONAL AIRPORT	727720	46.61	–111.96	6B	289	11
JORDAN (RAMOS)	727684	47.33	–106.93	6B	330	13
KALISPELL GLACIER PK INT'L AR	727790	48.30	–114.26	6B	437	17
LEWISTOWN MUNICIPAL ARPT	726776	47.05	–109.47	6B	456	18
MALMSTROM AFB	727755	47.52	–111.18	6B	373	15
MILES CITY MUNICIPAL ARPT	742300	46.43	–105.89	6B	344	14
MISSOULA INTERNATIONAL AP	727730	46.92	–114.09	6B	345	14
SIDNEY-RICHLAND	727687	47.70	–104.20	6B	352	14
Nebraska (NE)						
AINSWORTH MUNICIPAL	725556	42.58	–100.00	5A	556	22
ALLIANCE MUNICIPAL	725635	42.05	–102.80	5A	390	15

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BEATRICE MUNICIPAL	725515	40.30	–96.75	5A	771	30
BREWSTER FIELD ARPT	725628	40.45	–99.33	5A	656	26
COLUMBUS MUNI	725565	41.45	–97.33	5A	703	28
FREMONT MUNI ARPT	725564	41.45	–96.52	5A	786	31
GRAND ISLAND CENTRAL NE REGIO	725520	40.96	–98.31	5A	649	26
HASTINGS MUNICIPAL	725525	40.60	–98.43	5A	724	29
KEARNEY MUNI (AWOS)	725526	40.73	–99.00	5A	637	25
LINCOLN MUNICIPAL ARPT	725510	40.83	–96.76	5A	731	29
MCCOOK MUNICIPAL	725625	40.20	–100.58	5A	521	21
NORFOLK KARL STEFAN MEM ARPT	725560	41.98	–97.44	5A	666	26
NORTH PLATTE REGIONAL AP	725620	41.12	–100.67	5A	511	20
O`NEILL/BAKER FIELD	725566	42.47	–98.68	5A	627	25
OFFUTT AFB/BELLEVUE	725540	41.12	–95.92	5A	818	32
OMAHA EPPLEY AIRFIELD	725500	41.31	–95.90	5A	804	32
OMAHA WSFO	725530	41.37	–96.02	5A	770	30
SCOTTSBLUFF W B HEILIG FIELD	725660	41.87	–103.60	5A	392	15
SIDNEY MUNICIPAL AP	725610	41.10	–102.99	5A	443	17
TEKAMAH (ASOS)	725527	41.77	–96.17	5A	721	28
VALENTINE MILLER FIELD	725670	42.86	–100.55	5A	476	19
Nevada (NV)						
CALIENTE (AMOS)	724870	37.62	–114.52	4B	240	9
ELKO MUNICIPAL ARPT	725825	40.83	–115.79	5B	253	10
ELY YELLAND FIELD	724860	39.30	–114.85	5B	244	10
EUREKA (RAMOS)	725824	39.52	–115.97	5B	287	11
FALLON NAAS	724885	39.42	–118.70	5B	128	5
LAS VEGAS MCCARRAN INTL AP	723860	36.08	–115.16	3B	109	4
LOVELOCK DERBY FIELD	725805	40.07	–118.57	5B	134	5
MERCURY DESERT ROCK AP	723870	36.62	–116.03	4B	143	6
NELLIS AFB	723865	36.23	–115.03	3B	142	6
RENO TAHOE INTERNATIONAL AP	724880	39.48	–119.77	5B	189	7
TONOPAH AIRPORT	724855	38.06	–117.09	4B	135	5
WINNEMUCCA MUNICIPAL ARPT	725830	40.90	–117.81	5B	208	8
New Hampshire (NH)						
BERLIN MUNICIPAL	726160	44.58	–71.18	6A	951	37
CONCORD MUNICIPAL ARPT	726050	43.20	–71.50	5A	976	38
DILLANT HOPKINS	726165	42.90	–72.27	6A	1004	40
ISLE OF SHOALS	994270	42.97	–70.62	5A	1172	46
JAFFREY MUNICIPAL	726163	42.80	–72.00	6A	1152	45
LACONIA MUNI (AWOS)	726155	43.57	–71.42	6A	1062	42
LEBANON MUNICIPAL	726116	43.63	–72.30	6A	908	36
MANCHESTER AIRPORT	743945	42.93	–71.44	5A	1098	43
MOUNT WASHINGTON	726130	44.27	–71.30	6A	2470	97
PEASE INTL TRADEPOR	726055	43.08	–70.82	5A	1168	46
New Jersey (NJ)						
ATLANTIC CITY INTL AP	724070	39.46	–74.46	4A	1025	40
BELMAR-FARMINGDALE	724084	40.18	–74.13	4A	1185	47
CAPE MAY CO	745966	39.00	–74.90	4A	1098	43
MCGUIRE AFB	724096	40.02	–74.60	4A	1161	46
MILLVILLE MUNICIPAL AP	724075	39.37	–75.08	4A	1056	42
NEWARK INTERNATIONAL ARPT	725020	40.72	–74.17	4A	1110	44
TETERBORO AIRPORT	725025	40.85	–74.06	5A	1199	47
TRENTON MERCER COUNTY AP	724095	40.28	–74.81	4A	1074	42
New Mexico (NM)						
ALAMOGORDO WHITE SA	722693	32.83	–105.98	3B	319	13

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ALBUQUERQUE INTL ARPT	723650	35.04	–106.62	4B	231	9
CANNON AFB/CLOVIS	722686	34.38	–103.32	4B	416	16
CARLSBAD CAVERN CITY AIR TERM	722687	32.34	–104.26	3B	330	13
CLAYTON MUNICIPAL AIRPARK	723600	36.45	–103.15	4B	390	15
CLOVIS MUNI (AWOS)	722689	34.43	–103.08	4B	436	17
FARMINGTON FOUR CORNERS REGL	723658	36.74	–108.23	5B	233	9
GALLUP SEN CLARKE FLD	723627	35.51	–108.79	5B	291	11
HOLLOMAN AFB	747320	32.85	–106.10	3B	272	11
ROSWELL INDUSTRIAL AIR PARK	722680	33.31	–104.54	3B	314	12
SIERRA BLANCA RGNL	722683	33.47	–105.53	4B	517	20
TAOS MUNI APT(AWOS)	723663	36.45	–105.67	5B	310	12
TRUTH OR CONSEQUENCES MUNI AP	722710	33.24	–107.27	3B	238	9
WHITE SANDS	722690	32.38	–106.48	3B	228	9
New York (NY)						
ALBANY COUNTY AP	725180	42.75	–73.80	5A	949	37
AMBROSE LIGHT	994100	40.45	–73.80	4A	1114	44
BINGHAMTON EDWIN A LINK FIELD	725150	42.21	–75.98	5A	963	38
BUFFALO NIAGARA INTL AP	725280	42.94	–78.74	5A	984	39
DUNKIRK	994250	42.48	–79.35	5A	1071	42
ELMIRA CORNING REGIONAL AP	725156	42.16	–76.89	5A	869	34
FORT DRUM/WHEELER-S	743700	44.05	–75.73	6A	1007	40
GALLOO ISLAND	994320	43.88	–76.43	6A	1083	43
GLENS FALLS AP	725185	43.34	–73.61	6A	911	36
GRIFFISS AFB	725196	43.23	–75.40	6A	1121	44
ISLIP LONG ISL MACARTHUR AP	725035	40.79	–73.10	4A	1206	47
JAMESTOWN (AWOS)	725235	42.15	–79.27	5A	1165	46
MASSENA AP	726223	44.94	–74.85	6A	877	35
MONTICELLO(AWOS)	725145	41.70	–74.80	6A	1118	44
NEW YORK J F KENNEDY INT'L AR	744860	40.66	–73.80	4A	1106	44
NEW YORK LAGUARDIA ARPT	725030	40.78	–73.88	4A	1238	49
NEWBURGH/STEWART	725038	41.50	–74.10	5A	1111	44
NIAGARA FALLS AF	725287	43.11	–78.95	5A	899	35
PLATTSBURGH AFB	726225	44.65	–73.47	6A	672	26
POUGHKEEPSIE DUTCHESS CO AP	725036	41.63	–73.88	5A	1119	44
REPUBLIC	744864	40.72	–73.40	4A	1169	46
ROCHESTER GREATER ROCHESTER I	725290	43.12	–77.68	5A	799	31
SUPERIOR SHOALS	994580	44.48	–75.80	6A	947	37
SYRACUSE HANCOCK INT'L ARPT	725190	43.11	–76.10	5A	957	38
UTICA ONEIDA COUNTY AP	725197	43.15	–75.38	6A	1121	44
WATERTOWN AP	726227	43.99	–76.02	6A	815	32
WHITE PLAINS WESTCHESTER CO A	725037	41.07	–73.71	5A	1268	50
North Carolina (NC)						
ASHEVILLE REGIONAL ARPT	723150	35.43	–82.54	4A	1468	58
CAPE HATTERAS	723040	35.27	–75.55	3A	1458	57
CAPE LOOKOUT	994160	34.62	–76.52	3A	1408	55
CHARLOTTE DOUGLAS INTL ARPT	723140	35.21	–80.94	3A	1175	46
CHERRY POINT MCAS	723090	34.90	–76.88	3A	1388	55
DIAMOND SHOALS (LS)	994030	35.15	–75.30	3A	1449	57
FAYETTEVILLE RGNL G	723035	34.98	–78.88	3A	1203	47
FORT BRAGG/SIMMONS	746930	35.13	–78.93	3A	1189	47
FRYING PAN SHOALS	994040	33.48	–77.58	3A	1442	57
GREENSBORO PIEDMONT TRIAD INT	723170	36.10	–79.94	3A	1075	42
HATTERAS BILLY MITCHELL AP	723139	35.23	–75.62	3A	1458	57
HICKORY REGIONAL AP	723145	35.74	–81.39	3A	1236	49

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
JACKSONVILLE (AWOS)	723069	34.83	–77.62	3A	1327	52
NEW BERN CRAVEN CO REGL AP	723095	35.07	–77.05	3A	1386	55
NEW RIVER MCAF	723096	34.70	–77.43	3A	1368	54
PITT GREENVILLE ARP	723065	35.63	–77.40	3A	1230	48
POPE AFB	723030	35.17	–79.02	3A	1213	48
RALEIGH DURHAM INTERNATIONAL	723060	35.87	–78.79	3A	1095	43
SEYMOUR-JOHNSON AFB	723066	35.33	–77.97	3A	1231	48
SOUTHERN PINES AWOS	723143	35.23	–79.40	3A	1229	48
WILMINGTON INTERNATIONAL ARPT	723013	34.27	–77.91	3A	1407	55
WINSTON-SALEM REYNOLDS AP	723193	36.13	–80.22	3A	1137	45
North Dakota (ND)						
BISMARCK MUNICIPAL ARPT	727640	46.77	–100.75	6A	424	17
DEVILS LAKE (AMOS)	727580	48.10	–98.87	7	442	17
DEVILS LAKE(AWOS)	727573	48.12	–98.92	7	442	17
DICKINSON MUNICIPAL AP	727645	46.80	–102.80	6A	410	16
FARGO HECTOR INTERNATIONAL AP	727530	46.93	–96.81	6A	538	21
GRAND FORKS AFB	727575	47.97	–97.40	7	496	20
GRAND FORKS INTERNATIONAL AP	727576	47.95	–97.18	7	506	20
JAMESTOWN MUNICIPAL ARPT	727535	46.93	–98.68	6A	466	18
LIDGERWOOD (RAMOS)	727534	46.10	–97.15	6A	545	21
MINOT AFB	727675	48.42	–101.35	7	449	18
MINOT FAA AP	727676	48.26	–101.28	7	457	18
WILLISTON SLOULIN INTL AP	727670	48.20	–103.64	6A	360	14
Ohio (OH)						
AKRON AKRON-CANTON REG AP	725210	40.92	–81.44	5A	961	38
CINCINNATI MUNICIPAL AP LUNKI	724297	39.10	–84.42	4A	1045	41
CLEVELAND HOPKINS INTL AP	725240	41.41	–81.85	5A	937	37
COLUMBUS PORT COLUMBUS INTL A	724280	39.99	–82.88	4A	975	38
DAYTON INTERNATIONAL AIRPORT	724290	39.91	–84.22	5A	967	38
FINDLAY AIRPORT	725366	41.01	–83.67	5A	915	36
LANCASTER\FAIRFIEL	724294	39.75	–82.65	5A	1026	40
MANSFIELD LAHM MUNICIPAL ARPT	725246	40.82	–82.52	5A	1011	40
OHIO STATE UNIVERSI	724288	40.07	–83.07	4A	935	37
RICKENBACKER ANGB	724285	39.82	–82.93	4A	974	38
SOUTH BASS ISLAND	994340	41.62	–82.83	5A	838	33
TOLEDO EXPRESS AIRPORT	725360	41.59	–83.80	5A	857	34
WRIGHT-PATERSON AFB	745700	39.83	–84.05	4A	1000	39
YOUNGSTOWN REGIONAL AIRPORT	725250	41.25	–80.67	5A	958	38
ZANESVILLE MUNICIPAL AP	724286	39.94	–81.89	5A	985	39
Oklahoma (OK)						
ALTUS AFB	723520	34.67	–99.27	3A	672	26
CLINTON-SHERMAN	723526	35.33	–99.20	3A	692	27
FORT SILL	723550	34.65	–98.40	3A	738	29
GAGE AIRPORT	723527	36.30	–99.78	4A	487	19
HOBART MUNICIPAL AP	723525	35.01	–99.05	3A	674	27
LAWTON MUNICIPAL	723575	34.57	–98.42	3A	738	29
MCALESTER MUNICIPAL AP	723566	34.90	–95.78	3A	1116	44
OKLAHOMA CITY WILL ROGERS WOR	723530	35.39	–97.60	3A	865	34
OKLAHOMA CITY/WILEY	723544	35.53	–97.65	3A	824	32
PONCA CITY MUNICIPAL AP	723546	36.73	–97.10	4A	903	36
STILLWATER RGNL	723545	36.15	–97.08	3A	879	35
TINKER AFB	723540	35.42	–97.38	3A	912	36
TULSA INTERNATIONAL AIRPORT	723560	36.20	–95.89	3A	1044	41
TULSA/LLOYD JONES	723564	36.03	–95.98	3A	1001	39

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
VANCE AFB	723535	36.33	–97.92	4A	777	31
Oregon (OR)						
ASTORIA REGIONAL AIRPORT	727910	46.16	–123.88	4C	1737	68
AURORA STATE	726959	45.25	–122.77	4C	1102	43
BAKER MUNICIPAL AP	726886	44.84	–117.81	5B	267	11
BURNS MUNICIPAL ARPT	726830	43.59	–118.95	5B	297	12
CAPE ARAGO (LS)	994240	43.33	–124.37	4C	1570	62
CORVALLIS MUNI	726945	44.48	–123.28	4C	1335	53
EUGENE MAHLON SWEET ARPT	726930	44.13	–123.21	4C	1213	48
KLAMATH FALLS INTL AP	725895	42.15	–121.72	5B	349	14
LA GRANDE MUNI AP	726884	45.29	–118.01	5B	573	23
LAKEVIEW (AWOS)	725976	42.17	–120.40	5B	401	16
MC MINNVILLE MUNI	726881	45.18	–123.13	4C	1088	43
MEACHAM	726885	45.51	–118.43	5B	708	28
MEDFORD ROGUE VALLEY INTL AP	725970	42.39	–122.87	4C	479	19
NEWPORT STATE BEACH	994280	44.62	–124.07	4C	1733	68
NORTH BEND MUNI AIRPORT	726917	43.42	–124.25	4C	1635	64
PENDLETON E OR REGIONAL AP	726880	45.70	–118.83	5B	311	12
PORTLAND INTERNATIONAL AP	726980	45.59	–122.60	4C	1170	46
PORTLAND/HILLSBORO	726986	45.53	–122.95	4C	1103	43
REDMOND ROBERTS FIELD	726835	44.25	–121.15	5B	219	9
SALEM MCNARY FIELD	726940	44.91	–123.00	4C	999	39
SEXTON SUMMIT	725975	42.62	–123.38	4C	937	37
Pennsylvania (PA)						
ALLENTOWN LEHIGH VALLEY INTL	725170	40.65	–75.45	5A	1119	44
ALTOONA BLAIR CO ARPT	725126	40.30	–78.32	5A	925	36
BRADFORD REGIONAL AP	725266	41.80	–78.64	5A	1127	44
BUTLER CO. (AWOS)	725124	40.78	–79.95	5A	1045	41
DUBOIS FAA AP	725125	41.18	–78.90	5A	1088	43
ERIE INTERNATIONAL AP	725260	42.08	–80.18	5A	1095	43
FRANKLIN	725267	41.44	–79.85	5A	1075	42
HARRISBURG CAPITAL CITY ARPT	725118	40.22	–76.85	4A	1034	41
JOHNSTOWN CAMBRIA COUNTY AP	725127	40.30	–78.83	5A	1172	46
MIDDLETOWN HARRISBURG INTL AP	725115	40.19	–76.76	4A	1034	41
PHILADELPHIA INTERNATIONAL AP	724080	39.87	–75.23	4A	1134	45
PHILADELPHIA NE PHILADELPHIA	724085	40.08	–75.01	4A	1168	46
PITTSBURGH ALLEGHENY CO AP	725205	40.36	–79.92	5A	1008	40
PITTSBURGH INTERNATIONAL AP	725200	40.50	–80.23	5A	942	37
READING SPAATZ FIELD	725103	40.37	–75.96	4A	1085	43
WASHINGTON (AWOS)	725117	40.13	–80.28	5A	1002	39
WILKES-BARRE SCRANTON INTL AP	725130	41.34	–75.73	5A	940	37
WILLIAMSPORT REGIONAL AP	725140	41.24	–76.92	5A	1040	41
WILLOW GROVE NAS	724086	40.20	–75.15	4A	1212	48
Rhode Island (RI)						
BLOCK ISLAND STATE ARPT	725058	41.17	–71.58	5A	1024	40
PAWTUCKET (AWOS)	725054	41.92	–71.50	5A	1186	47
PROVIDENCE T F GREEN STATE AR	725070	41.72	–71.43	5A	1154	45
South Carolina (SC)						
ANDERSON COUNTY AP	723125	34.50	–82.71	3A	1318	52
BEAUFORT MCAS	722085	32.48	–80.72	2A	1286	51
CHARLESTON INTL ARPT	722080	32.90	–80.04	3A	1283	51
COLUMBIA METRO ARPT	723100	33.94	–81.12	3A	1266	50
FLORENCE REGIONAL AP	723106	34.19	–79.73	3A	1097	43
FOLLY ISLAND	994230	32.68	–79.88	3A	1247	49

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
GREER GREENV'L-SPARTANBRG AP	723120	34.90	–82.22	3A	1275	50
MYRTLE BEACH AFB	747910	33.68	–78.92	3A	1327	52
SHAW AFB/SUMTER	747900	33.97	–80.47	3A	1203	47
South Dakota (SD)						
ABERDEEN REGIONAL ARPT	726590	45.45	–98.42	6A	548	22
BROOKINGS (AWOS)	726515	44.30	–96.82	6A	578	23
BUFFALO (AMOS)	726627	45.60	–103.55	6A	406	16
CHAMBERLAIN (AMOS)	726530	43.80	–99.32	5A	501	20
CHAN GURNEY MUNI	726525	42.92	–97.38	5A	590	23
CUSTER (RAMOS)	726514	43.73	–103.62	6A	458	18
ELLSWORTH AFB	726625	44.15	–103.10	6A	451	18
HURON REGIONAL ARPT	726540	44.39	–98.23	6A	539	21
MITCHELL (AWOS)	726545	43.77	–98.03	6A	556	22
MOBRIDGE	726685	45.53	–100.43	6A	418	16
PIERRE MUNICIPAL AP	726686	44.38	–100.29	6A	481	19
RAPID CITY REGIONAL ARPT	726620	44.05	–103.05	6A	451	18
SIOUX FALLS FOSS FIELD	726510	43.58	–96.75	6A	640	25
WATERTOWN MUNICIPAL AP	726546	44.93	–97.15	6A	581	23
Tennessee (TN)						
BRISTOL TRI CITY AIRPORT	723183	36.48	–82.40	4A	1031	41
CHATTANOOGA LOVELL FIELD AP	723240	35.03	–85.20	3A	1353	53
CROSSVILLE MEMORIAL AP	723265	35.95	–85.09	4A	1520	60
DYERSBURG MUNICIPAL AP	723347	36.02	–89.32	3A	1302	51
JACKSON MCKELLAR-SIPES REGL A	723346	35.59	–88.92	3A	1336	53
KNOXVILLE MCGHEE TYSON AP	723260	35.82	–83.99	4A	1222	48
MEMPHIS INTERNATIONAL AP	723340	35.06	–89.99	3A	1303	51
MILLINGTON MUNI ARP	723284	35.35	–89.87	3A	1290	51
NASHVILLE INTERNATIONAL AP	723270	36.12	–86.69	3A	1243	49
Texas (TX)						
ABILENE DYESS AFB	690190	32.43	–99.85	3B	631	25
ABILENE REGIONAL AP	722660	32.41	–99.68	3B	625	25
ALICE INTL AP	722517	27.74	–98.03	2A	689	27
AMARILLO INTERNATIONAL AP	723630	35.22	–101.71	4B	512	20
AUSTIN/BERGSTROM	722540	30.18	–97.68	2A	864	34
BEEVILLE CHASE NAAS	722556	28.37	–97.67	2A	847	33
BROWNSVILLE S PADRE ISL INTL	722500	25.91	–97.43	1A	665	26
BURNET MUNI.	722542	30.73	–98.23	3A	790	31
CAMP MABRY	722544	30.32	–97.77	2A	851	34
CHILDRESS MUNICIPAL AP	723604	34.43	–100.29	3B	512	20
COLLEGE STATION EASTERWOOD FL	722445	30.59	–96.36	2A	1040	41
CORPUS CHRISTI INTL ARPT	722510	27.77	–97.51	2A	800	31
CORPUS CHRISTI NAS	722515	27.70	–97.28	2A	799	31
COTULLA FAA AP	722526	28.46	–99.22	2B	567	22
COX FLD	722587	33.63	–95.45	3A	1202	47
DALHART MUNICIPAL AP	722636	36.02	–102.55	4B	456	18
DALLAS HENSLEY FIELD NAS	722585	32.73	–96.97	2A	841	33
DALLAS LOVE FIELD	722583	32.85	–96.85	2A	927	37
DALLAS/REDBIRD ARPT	722599	32.68	–96.87	2A	928	37
DALLAS-FORT WORTH INTL AP	722590	32.90	–97.04	2A	886	35
DEL RIO INTERNATIONAL AP	722610	29.37	–100.92	2B	483	19
DRAUGHON MILLER CEN	722577	31.15	–97.40	2A	900	35
EL PASO INTERNATIONAL AP	722700	31.81	–106.38	3B	222	9
FORT HOOD/GRAY AAF	722576	31.07	–97.83	2A	826	33
FORT STOCKTON PECOS	722618	30.92	–102.92	3B	347	14

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
FORT WORTH ALLIANCE	722594	32.98	–97.32	2A	858	34
FORT WORTH MEACHAM	722596	32.82	–97.36	2A	858	34
FORT WORTH NAS	722595	32.77	–97.44	2A	858	34
GALVESTON/SCHOLES	722420	29.27	–94.86	2A	1076	42
GEORGETOWN (AWOS)	722547	30.68	–97.68	2A	880	35
HARLINGEN RIO GRANDE VALLEY I	722505	26.23	–97.65	1A	702	28
HONDO MUNICIPAL AP	722533	29.36	–99.17	2B	723	28
HOUSTON BUSH INTERCONTINENTAL	722430	29.99	–95.36	2A	1262	50
HOUSTON WILLIAM P HOBBY AP	722435	29.65	–95.28	2A	1340	53
HOUSTON/D.W. HOOKS	722429	30.07	–95.55	2A	1187	47
HOUSTON/ELLINGTON	722436	29.60	–95.17	2A	1356	53
JUNCTION KIMBLE COUNTY AP	747400	30.51	–99.77	3B	557	22
KELLY AFB	722535	29.38	–98.58	2A	753	30
KILLEEN MUNI (AWOS)	722575	31.08	–97.68	2A	878	35
KINGSVILLE	722516	27.50	–97.82	2A	712	28
LAREDO INTL AIRPORT	722520	27.55	–99.47	2B	485	19
LAUGHLIN AFB	722615	29.37	–100.78	2B	517	20
LONGVIEW GREGG COUNTY AP	722470	32.39	–94.71	3A	1232	48
LUBBOCK INTERNATIONAL AP	722670	33.67	–101.82	3B	479	19
LUFKIN ANGELINA CO	722446	31.23	–94.75	2A	1137	45
MARFA AP	722640	30.37	–104.02	3B	412	16
MC GREGOR (AWOS)	722563	31.48	–97.32	2A	869	34
MCALLEN MILLER INTL AP	722506	26.18	–98.24	1A	585	23
MCKINNEY MUNI ARPT	722541	33.18	–96.58	3A	1017	40
MIDLAND INTERNATIONAL AP	722650	31.93	–102.21	3B	370	15
NACOGDOCHES (AWOS)	722499	31.58	–94.72	3A	1276	50
PALACIOS MUNICIPAL AP	722555	28.73	–96.25	2A	1192	47
PINE SPRINGS GUADALUPE MOUNTA	722620	31.83	–104.81	3B	302	12
PORT ARANSAS	994110	27.82	–97.05	2A	879	35
PORT ARTHUR JEFFERSON COUNTY	722410	29.95	–94.02	2A	1476	58
RANDOLPH AFB	722536	29.53	–98.28	2A	840	33
REESE AFB	722675	33.60	–102.05	3B	480	19
ROCKPORT/ARANSAS CO	722524	28.08	–97.05	2A	942	37
SABINE	994260	29.67	–94.05	2A	1384	54
SAN ANGELO MATHIS FIELD	722630	31.35	–100.49	3B	521	21
SAN ANTONIO INTL AP	722530	29.53	–98.46	2A	808	32
SAN ANTONIO/STINSON	722523	29.34	–98.47	2A	770	30
SAN MARCOS MUNI	722539	29.88	–97.87	2A	908	36
SANDERSON (RAMOS)	747300	30.17	–102.42	3B	372	15
STEPHENVILLE CLARK FIELD	722600	32.22	–98.18	3A	817	32
VICTORIA REGIONAL AP	722550	28.86	–96.93	2A	1014	40
WACO REGIONAL AP	722560	31.61	–97.23	2A	848	33
WICHITA FALLS MUNICIPAL ARPT	723510	33.98	–98.49	3A	724	28
WINK WINKLER COUNTY AP	722656	31.78	–103.20	3B	292	12
Utah (UT)						
CEDAR CITY MUNICIPAL AP	724755	37.70	–113.10	5B	286	11
HILL AFB/OGDEN	725755	41.12	–111.97	5B	544	21
LOGAN-CACHE AIRPORT	724796	41.79	–111.85	5B	442	17
MILFORD MUNICIPAL AP	724797	38.44	–113.03	5B	247	10
PRICE/CARBON COUNTY	724700	39.62	–110.75	5B	302	12
PROVO MUNI (AWOS)	725724	40.22	–111.72	5B	483	19
SAINT GEORGE (AWOS)	724754	37.08	–113.60	3B	210	8
SALT LAKE CITY INT'L ARPT	725720	40.79	–111.97	5B	405	16
VERNAL	725705	40.43	–109.52	6B	216	8

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
WENDOVER USAF AUXILIARY FIELD	725810	40.72	–114.02	5B	127	5
Vermont (VT)						
BURLINGTON INTERNATIONAL AP	726170	44.47	–73.15	6A	882	35
MONTPELIER AP	726145	44.20	–72.58	6A	875	34
MORRISVILLE\STONE	726114	44.53	–72.62	6A	1355	53
RUTLAND STATE	725165	43.52	–72.95	6A	1099	43
SPRINGFIELD/HARTNES	726115	43.35	–72.52	6A	1120	44
Virginia (VA)						
ABINGTON	724058	36.68	–82.03	4A	1158	46
CHESAPEAKE	994020	36.90	–75.72	3A	1340	53
DANVILLE FAA AP	724106	36.57	–79.34	3A	1095	43
DINWIDDIE CO	724014	37.18	–77.50	4A	1171	46
FARMVILLE	724017	37.35	–78.43	4A	1098	43
FORT BELVOIR/DAVISO	724037	38.72	–77.18	4A	1090	43
HILLSVILLE	724107	36.77	–80.82	4A	1040	41
HOT SPRINGS/INGALLS	724115	37.95	–79.83	5A	986	39
LANGLEY AFB/HAMPTON	745980	37.08	–76.37	3A	1191	47
LEESBURG/GODFREY	724055	39.08	–77.57	4A	1054	41
LYNCHBURG REGIONAL ARPT	724100	37.34	–79.21	4A	1036	41
MANASSAS MUNI(AWOS)	724036	38.72	–77.52	4A	1032	41
MARION / WYTHEVILLE	724056	36.90	–81.35	4A	1089	43
MARTINSVILLE	745985	36.63	–80.02	4A	1267	50
MECKLENBURG\BRUNS.	724118	36.70	–78.05	3A	1153	45
MELFA/ACCOMACK ARPT	724026	37.65	–75.77	4A	1090	43
NEWPORT NEWS	723086	37.13	–76.49	3A	1191	47
NORFOLK INTERNATIONAL AP	723080	36.90	–76.19	3A	1153	45
NORFOLK NAS	723085	36.93	–76.28	3A	1153	45
OCEANA NAS	723075	36.82	–76.03	3A	1123	44
QUANTICO MCAS	724035	38.50	–77.30	4A	968	38
RICHMOND INTERNATIONAL AP	724010	37.51	–77.32	4A	1107	44
ROANOKE REGIONAL AP	724110	37.32	–79.97	4A	1033	41
SHANNON ARPT	724033	38.27	–77.45	4A	1047	41
STAUNTON/SHENANDOAH	724105	38.27	–78.90	4A	960	38
VIRGINIA TECH ARPT	724113	37.22	–80.42	4A	1043	41
WALLOPS ISLAND UAU	724020	37.94	–75.50	4A	1015	40
WASHINGTON DC DULLES INT'L AR	724030	38.94	–77.45	4A	1042	41
WINCHESTER RGNL	724053	39.15	–78.15	4A	1003	39
WISE/LONESOME PINE	724117	36.98	–82.53	4A	1208	48
Washington (WA)						
ARLINGTON MUNI	727945	48.17	–122.17	4C	1169	46
BELLINGHAM INTL AP	727976	48.79	–122.54	4C	855	34
BREMERTON NATIONAL	727928	47.48	–122.75	5C	1197	47
DESTRUCTION ISLAND	994070	47.67	–124.48	4C	2681	106
FAIRCHILD AFB	727855	47.62	–117.65	5B	397	16
FELTS FLD	727856	47.68	–117.32	5B	525	21
FRIDAY HARBOR	727985	48.52	–123.02	5C	1380	54
GRAY AAF	742071	47.08	–122.58	4C	1163	46
HANFORD	727840	46.57	–119.60	5B	174	7
HOQUIAM AP	727923	46.97	–123.94	4C	2284	90
KELSO WB AP	727924	46.12	–122.89	4C	1177	46
MC CHORD AFB/TACOMA	742060	47.13	–122.48	4C	1063	42
OLYMPIA AIRPORT	727920	46.97	–122.90	4C	1255	49
OMAK	727890	48.42	–119.53	5B	290	11
PASCO	727845	46.27	–119.12	5B	198	8

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
PEARSON FLD	727918	45.62	–122.65	4C	1037	41
PULLMAN/MOSCOW RGNL	727857	46.75	–117.12	5B	519	20
QUILLAYUTE STATE AIRPORT	727970	47.93	–124.56	5C	2566	101
SEATTLE BOEING FIELD	727935	47.53	–122.30	4C	1015	40
SEATTLE SEATTLE-TACOMA INTL A	727930	47.46	–122.31	4C	952	37
SHELTON/SANDERSON	727925	47.24	–123.15	4C	1659	65
SMITH ISLAND	994180	48.32	–122.83	5C	1172	46
SNOHOMISH CO	727937	47.90	–122.28	4C	909	36
SPOKANE INTERNATIONAL AP	727850	47.62	–117.53	5B	397	16
STAMPEDE PASS	727815	47.29	–121.34	5B	2171	85
TACOMA NARROWS	727938	47.27	–122.57	4C	1197	47
TATOOSH ISLAND	994300	48.38	–124.73	5C	2376	94
WALLA WALLA CITY COUNTY AP	727846	46.10	–118.29	5B	501	20
WENATCHEE/PANGBORN	727825	47.40	–120.21	5B	210	8
WEST POINT (LS)	994350	47.67	–122.43	4C	985	39
WHIDBEY ISLAND NAS	690230	48.35	–122.65	5C	495	19
WILLIAM R FAIRCHILD	727885	48.12	–123.50	5C	954	38
YAKIMA AIR TERMINAL	727810	46.56	–120.53	5B	197	8
West Virginia (WV)						
BECKLEY RALEIGH CO MEM AP	724120	37.80	–81.13	4A	1052	41
BLUEFIELD/MERCER CO	724125	37.30	–81.21	4A	980	39
CHARLESTON YEAGER ARPT	724140	38.38	–81.59	4A	1097	43
ELKINS ELKINS-RANDOLPH CO ARP	724170	38.89	–79.85	5A	1127	44
HARRISON MARION RGN	724175	39.28	–80.22	5A	1149	45
HUNTINGTON TRI-STATE ARPT	724250	38.38	–82.56	4A	1064	42
MARTINSBURG EASTERN WV REG AP	724177	39.40	–77.98	4A	967	38
MORGANTOWN HART FIELD	724176	39.64	–79.92	5A	1045	41
PARKERSBURG WOOD COUNTY AP	724273	39.35	–81.44	4A	1055	42
Wisconsin (WI)						
ANTIGO/LANG(AWOS)	726626	45.15	–87.15	6A	723	28
APPLETON/OUTAGAMIE	726457	44.25	–88.52	6A	753	30
DEVILS ISLAND	994190	47.08	–90.73	6A	855	34
EAGLE RIVER UNION	726504	45.93	–89.27	6A	810	32
EAU CLAIRE COUNTY AP	726435	44.87	–91.49	6A	780	31
FOND DU LAC CO.	726506	43.77	–88.49	5A	739	29
GREEN BAY AUSTIN STRAUBEL INT	726450	44.51	–88.12	6A	732	29
HAYWARD MUNI ARPT	726508	46.03	–91.45	6A	826	33
JUNEAU/DODGE CO	726509	43.43	–88.70	5A	811	32
KENOSHA RGNL	726505	42.58	–87.92	5A	861	34
LA CROSSE MUNICIPAL ARPT	726430	43.75	–91.26	5A	858	34
MADISON DANE CO REGIONAL ARPT	726410	43.14	–89.35	5A	829	33
MANITOWAC MUNI AWOS	726455	44.13	–87.68	6A	742	29
MARSHFIELD MUNI	726574	44.63	–90.18	6A	851	33
MILWAUKEE MITCHELL INTL AP	726400	42.95	–87.90	5A	829	33
MOSINEE/CENTRAL WI	726465	44.78	–89.67	6A	826	33
PARK FALLS MUNI	727410	45.93	–90.45	6A	853	34
PHILLIPS/PRICE CO.	726468	45.70	–90.40	6A	859	34
RHINELANDER ONEIDA	727415	45.63	–89.47	6A	816	32
RICE LAKE MUNICIPAL	726467	45.48	–91.72	6A	831	33
SHEBOYGAN	726425	43.78	–87.85	6A	822	32
SHEBOYGAN	994330	43.75	–87.68	6A	800	31
STURGEON BAY	726458	44.85	–87.42	6A	768	30
WATERTOWN	726464	43.17	–88.72	5A	850	33
WAUSAU MUNICIPAL ARPT	726463	44.93	–89.63	6A	804	32

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TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
WISCONSIN RAPIDS	726452	44.35	–89.83	6A	815	32
WITTMAN RGNL	726456	43.98	–88.55	5A	813	32
Wyoming (WY)						
BIG PINEY (AMOS)	726710	42.58	–110.11	7	243	10
CASPER NATRONA CO INTL AP	725690	42.90	–106.47	6B	308	12
CHEYENNE MUNICIPAL ARPT	725640	41.16	–104.81	5B	369	15
CODY MUNI (AWOS)	726700	44.52	–109.02	6B	232	9
GILLETTE/GILLETTE-C	726650	44.35	–105.53	6B	383	15
JACKSON HOLE	725776	43.60	–110.73	7	543	21
LANDER HUNT FIELD	725760	42.82	–108.73	6B	326	13
LARAMIE GENERAL BREES FIELD	725645	41.31	–105.67	6B	274	11
ROCK SPRINGS ARPT	725744	41.59	–109.07	6B	209	8
SHERIDAN COUNTY ARPT	726660	44.77	–106.98	6B	387	15
WORLAND MUNICIPAL	726665	43.97	–107.95	6B	193	8
YELLOWSTONE LAKE (RAMOS)	726664	44.54	–110.42	7	504	20
Puerto Rico (PR)						
AQUADILLA/BORINQUEN	785140	18.50	–67.13	1A	1562	61
ROOSEVELT ROADS	785350	18.25	–65.63	1A	1442	57
SAN JUAN INTL ARPT	785260	18.42	–66.00	1A	1352	53
SAN JUAN L M MARIN INTL AP	785263	18.43	–66.00	1A	1352	53
U.S. Minor Outlying Islands (PI)						
MIDWAY ISLAND NAS	910660	28.20	–177.38	2A	1049	41
WAKE ISLAND	912450	19.28	166.64	1A	754	30
Environmental Buoys (NA)						
ENVIRONM BUOY 44013	992420	42.38	–70.78	5A	1183	47
ENVIRONM BUOY 51002	992430	17.20	–157.80	1A	672	26
ENVIRONM BUOY 21002	992260	37.70	134.30	4A	1442	57
ENVIRONM BUOY 21004	992280	29.00	135.00	2A	1748	69
ENVIRONM BUOY 22001	992300	28.30	126.00	2A	1916	75
ENVIRONM BUOY 41001	992010	34.90	–72.90	2A	1862	73
ENVIRONM BUOY 41002	992150	32.30	–75.30	2A	1639	65
ENVIRONM BUOY 41009	995450	28.50	–80.17	2A	1226	48
ENVIRONM BUOY 41010	995460	28.95	–78.48	1A	1128	44
ENVIRONM BUOY 42001	992040	25.90	–89.70	1A	938	37
ENVIRONM BUOY 42002	992710	25.90	–93.60	1A	876	34
ENVIRONM BUOY 42003	992440	26.00	–85.90	1A	1110	44
ENVIRONM BUOY 42007	992120	30.10	–88.80	2A	1606	63
ENVIRONM BUOY 42020	996190	26.93	–96.70	1A	872	34
ENVIRONM BUOY 44004	992070	38.50	–70.70	3A	1964	77
ENVIRONM BUOY 44005	992760	42.70	–68.30	5A	1402	55
ENVIRONM BUOY 44007	992780	43.53	–70.08	5A	1161	46
ENVIRONM BUOY 44008	992790	40.50	–69.47	4A	1650	65
ENVIRONM BUOY 44009	992400	38.45	–74.70	4A	1226	48
ENVIRONM BUOY 44011	992360	41.10	–66.60	5A	1613	64
ENVIRONM BUOY 44025	996420	40.25	–73.17	4A	1245	49
ENVIRONM BUOY 46001	992030	56.30	–148.30	6A	1172	46
ENVIRONM BUOY 46002	992160	42.50	–130.30	4C	891	35
ENVIRONM BUOY 46003	992170	51.90	–155.90	6A	1161	46
ENVIRONM BUOY 46005	992210	46.10	–131.00	4C	1172	46
ENVIRONM BUOY 46006	992200	40.80	–137.60	3C	1026	40
ENVIRONM BUOY 46012	992480	37.40	–122.70	4C	707	28
ENVIRONM BUOY 46013	992490	38.20	–123.30	4C	456	18
ENVIRONM BUOY 46014	992500	39.20	–124.00	4C	1040	41
ENVIRONM BUOY 46022	992740	40.80	–124.50	4C	1073	42

TABLE A-4 United States Stations and Climate Zones *(Continued)*

[Note: Design conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

State/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
ENVIRONM BUOY 46023	992580	34.72	–120.97	3C	333	13
ENVIRONM BUOY 46025	992600	33.73	–119.08	3C	259	10
ENVIRONM BUOY 46026	992640	37.75	–122.68	4C	589	23
ENVIRONM BUOY 46027	992290	41.85	–124.38	2A	1935	76
ENVIRONM BUOY 46028	992380	35.80	–121.70	3C	672	26
ENVIRONM BUOY 46030	992650	40.43	–124.50	4C	1839	72
ENVIRONM BUOY 46035	992820	57.10	–177.70	7	1022	40
ENVIRONM BUOY 46036	992930	48.32	–133.83	4C	1248	49
ENVIRONM BUOY 46042	992410	36.80	–122.20	3C	663	26
ENVIRONM BUOY 51001	992020	23.40	–162.30	1A	500	20
ENVIRONM BUOY 51003	992610	19.20	–160.80	1B	496	20
ENVIRONM BUOY 51004	992620	17.50	–152.60	1B	493	19
ENVIRONM BUOY 62029	992880	50.60	–2.70	3A	1041	41

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TABLE A-5 Canada Stations and Climate Zones
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
Alberta (AB)						
BANFF CS	711220	51.19	–115.55	7	487	19
BOW ISLAND	712310	49.73	–111.45	6A	374	15
BOW VALLEY	712320	51.08	–115.07	7	584	23
BRETON PLOTS	712330	53.09	–114.44	7	460	18
BROOKS	714570	50.55	–111.85	6B	318	13
CALGARY INT'L A	718770	51.11	–114.02	7	425	17
CAMROSE	712540	53.03	–112.81	7	499	20
CARDSTON	711530	49.20	–113.29	6A	505	20
CLARESHOLM	712340	50.00	–113.64	6A	433	17
COLD LAKE A	711200	54.42	–110.28	7	464	18
COP UPPER	712350	51.08	–114.22	7	451	18
CORONATION (AUT)	718730	52.08	–111.45	7	405	16
CROWSNEST	712360	49.63	–114.48	7	664	26
DRUMHELLER EAST	712370	51.43	–112.67	7	390	15
EDMONTON CITY CENTRE A	718790	53.57	–113.52	7	481	19
EDMONTON INT'L A	711230	53.32	–113.58	7	493	19
EDMONTON NAMAO A	711210	53.67	–113.47	7	457	18
EDSON A	718810	53.60	–116.48	7	597	24
ELK ISLAND NAT PARK	712380	53.68	–112.87	7	442	17
ESTHER 1	712400	51.67	–110.21	7	323	13
FORT CHIPEWYAN A	719330	58.77	–111.12	8	417	16
FORT MCMURRAY A	719320	56.65	–111.22	7	476	19
GARDEN RIVER	712530	58.71	–113.87	7	385	15
GRANDE PRAIRIE A	719400	55.18	–118.88	7	477	19
HIGH LEVEL A	710660	58.62	–117.16	8	441	17
HIGHVALE	712410	53.45	–114.47	7	458	18
JASPER	718880	52.88	–118.07	7	415	16
JASPER WARDEN	714860	52.93	–118.03	7	415	16
LAC LA BICHE (AUT)	729310	54.77	–112.02	7	457	18
LACOMBE CDA 2	712420	52.45	–113.76	7	454	18
LETHBRIDGE A	718740	49.63	–112.80	6A	425	17
LETHBRIDGE CDA	712430	49.70	–112.78	6A	425	17
LLOYDMINSTER A	718710	53.31	–110.07	7	426	17
MEDICINE HAT A	718720	50.02	–110.72	6B	347	14
MILDRED LAKE	712550	57.04	–111.56	7	345	14
MILK RIVER	712440	49.13	–112.05	6B	364	14
NAKISKA RIDGETOP	712450	50.94	–115.19	8	605	24
ONEFOUR CDA	711160	49.12	–110.47	6A	347	14
PEACE RIVER A	710680	56.23	–117.45	7	412	16
PINCHER CREEK (AUT)	718750	49.52	–113.98	6A	484	19
RED DEER A	718780	52.18	–113.89	7	473	19
RED EARTH	712460	56.55	–115.28	7	430	17
ROCKY MTN HOUSE (AUT)	719280	52.42	–114.91	7	522	21
SLAVE LAKE A	710690	55.28	–114.78	7	525	21
SPRINGBANK A	718600	51.10	–114.37	7	491	19
STAVELY AAFC	715550	50.18	–113.88	6A	472	19
SUNDRE A	712480	51.78	–114.68	7	464	18
THREE HILLS	712490	51.83	–113.21	7	407	16
VAUXHALL CDA CS	712510	50.05	–112.13	6B	351	14
VEGREVILLE	714580	53.51	–112.10	7	375	15
WAINWRIGHT CFB AIRFIELD 21	711180	52.83	–111.10	7	431	17
WATERTON PARK GATE	711540	49.13	–113.81	6A	551	22
WHITECOURT A	719300	54.14	–115.79	7	594	23

TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
British Columbia (BC)						
ABBOTSFORD A	711080	49.03	–122.36	4C	1168	46
AGASSIZ CS	711130	49.25	–121.77	4C	1769	70
ALERT BAY	711100	50.58	–126.93	5C	1668	66
AMPHITRITE POINT	711120	48.92	–125.54	5C	3212	126
BALLENAS ISLAND	717690	49.35	–124.16	4C	981	39
BLUE RIVER CS	718830	52.13	–119.29	6A	1032	41
BONILLA ISLAND (AUT)	714840	53.50	–130.63	5A	2169	85
BURNS LAKE DECKER LAKE	719520	54.38	–125.96	7	503	20
CAPE SCOTT	711110	50.78	–128.43	5C	2296	90
CAPE ST JAMES CS	711070	51.94	–131.02	5C	1599	63
CATHEDRAL POINT (AUT)	714820	52.19	–127.47	5C	3439	135
CLINTON (AUT)	714740	51.14	–121.50	7	392	15
COMOX A	718930	49.72	–124.90	5C	1340	53
CRANBROOK A	718800	49.61	–115.78	6A	408	16
CRESTON CAMPBELL SCIENTIFIC	717700	49.08	–116.50	5A	511	20
CUMSHEWA ISLAND	717710	53.03	–131.60	5A	2374	93
DEASE LAKE	719580	58.43	–130.01	7	452	18
DISCOVERY ISLAND	710310	48.42	–123.23	4C	646	25
ENTRANCE ISLAND CS	717720	49.22	–123.80	4C	1135	45
ESQUIMALT HARBOUR	717980	48.43	–123.44	4C	646	25
ESTEVAN POINT CS	718940	49.38	–126.54	5C	3276	129
FORT NELSON A	719450	58.84	–122.60	7	469	18
FORT ST JOHN A	719430	56.24	–120.74	7	477	19
GREY ISLET (AUT)	714760	54.58	–130.70	5A	2302	91
HERBERT ISLAND (AUT)	714850	50.94	–127.64	5A	2155	85
HOLLAND ROCK	712190	54.17	–130.36	5A	2353	93
HOPE	711140	49.37	–121.48	5C	1760	69
HOWE SOUND - PAM ROCKS	712110	49.49	–123.30	4C	1535	60
KAMLOOPS A	718870	50.70	–120.44	5B	286	11
KELOWNA A	712030	49.96	–119.38	5A	471	19
KINDAKUN ROCKS (AUT)	714720	53.32	–132.77	5C	1981	78
LANGARA	718990	54.26	–133.06	5A	1952	77
LILLOOET	719990	50.68	–121.93	5A	392	15
LUCY ISLAND LIGHTSTATION	712200	54.30	–130.61	5A	2317	91
LYTTON	718910	50.22	–121.58	5C	455	18
MACKENZIE A	719440	55.31	–123.14	7	687	27
MALAHAT	717740	48.57	–123.53	5C	1095	43
NAKUSP CS	712160	50.27	–117.81	5A	832	33
NELSON CS	717760	49.49	–117.31	5A	741	29
OSOYOOS CS	712150	49.03	–119.44	5B	319	13
PEMBERTON AIRPORT CS	717770	50.30	–122.74	5C	850	33
PENTICTON A	718890	49.46	–119.60	5B	303	12
PITT MEADOWS CS	717750	49.21	–122.69	4C	1483	58
POINT ATKINSON	710370	49.33	–123.26	4C	1535	60
PORT ALBERNI (AUT)	714750	49.32	–124.93	5C	1636	64
PORT HARDY A	711090	50.68	–127.37	5A	1917	75
PRINCE GEORGE A	718960	53.89	–122.68	7	658	26
PRINCE RUPERT A	718980	54.29	–130.44	5A	2690	106
PRINCETON CS	710320	49.47	–120.51	6A	369	15
PUNTZI MOUNTAIN (AUT)	710500	52.11	–124.14	7	394	16
QUESNEL A	711030	53.03	–122.51	6A	554	22
REVELSTOKE A	718820	50.96	–118.18	6A	1018	40
ROSE SPIT (AUT)	714770	54.16	–131.66	5A	1434	56

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TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
SALMON ARM CS	712180	50.70	–119.29	5A	458	18
SANDHEADS CS	712090	49.11	–123.30	4C	1082	43
SANDSPIT A	711010	53.25	–131.81	5A	1323	52
SARTINE ISLAND (AUT)	714780	50.82	–128.91	5A	1920	76
SHERINGHAM POINT	717800	48.38	–123.92	5C	1497	59
SISTERS ISLAND	717810	49.49	–124.43	4C	1103	43
SMITHERS A	719500	54.82	–127.18	7	539	21
SOLANDER ISLAND (AUT)	714790	50.11	–127.94	5A	2375	94
SPARWOOD CS	717820	49.75	–114.89	7	1021	40
SQUAMISH	712070	49.78	–123.16	5C	2294	90
SUMMERLAND CS	717680	49.56	–119.64	5B	321	13
TERRACE A	719510	54.47	–128.58	6A	1378	54
VANCOUVER HARBOUR CS	712010	49.30	–123.12	4C	1517	60
VANCOUVER INT'L A	718920	49.20	–123.18	4C	1209	48
VERNON CS	711150	50.22	–119.19	5A	453	18
VICTORIA GONZALES CS	712000	48.41	–123.33	4C	646	25
VICTORIA HARTLAND CS	710380	48.53	–123.46	4C	948	37
VICTORIA INT'L A	717990	48.65	–123.43	5C	948	37
VICTORIA MARINE	712020	48.37	–123.75	5C	1265	50
VICTORIA UNIVERSITY CS	717830	48.46	–123.30	4C	646	25
WEST VANCOUVER AUT	717840	49.35	–123.19	4C	1517	60
WHITE ROCK CAMPBELL SCIENTIFI	717850	49.02	–122.78	4C	1049	41
WILLIAMS LAKE A	711040	52.18	–122.05	7	451	18
YOHO PARK	717860	51.44	–116.34	7	541	21
Manitoba (MB)						
BERENS RIVER CS	711580	52.36	–97.02	7	475	19
BRANDON A	711400	49.91	–99.95	7	471	19
CARBERRY CS	711700	49.91	–99.36	7	523	21
CARMAN U OF M CS	711470	49.50	–98.03	7	527	21
CHURCHILL A	719130	58.74	–94.06	8	449	18
DAUPHIN A	718550	51.10	–100.05	7	513	20
DELTA MARSH CS	715630	50.18	–98.38	7	530	21
EMERSON AUT	715600	49.00	–97.24	7	488	19
FISHER BRANCH (AUT)	714420	51.08	–97.55	7	562	22
GEORGE ISLAND (AUT)	714450	52.82	–97.62	7	449	18
GILLAM A	719120	56.36	–94.71	8	518	20
GIMLI INDUSTRIAL PARK	718560	50.63	–97.05	7	500	20
GRAND RAPIDS (AUT)	718580	53.19	–99.27	7	485	19
GRETNA (AUT)	714410	49.03	–97.56	7	512	20
HUNTERS POINT MARINE	711420	53.03	–100.93	7	462	18
ISLAND LAKE A	711450	53.85	–94.65	7	581	23
LYNN LAKE A	710780	56.86	–101.08	8	535	21
MELITA	714470	49.28	–100.99	7	446	18
NORWAY HOUSE A	711410	53.95	–97.85	7	530	21
OAKPOINT MARINE	711440	50.50	–98.04	7	532	21
PILOT MOUND (AUT)	711480	49.19	–98.90	7	487	19
PINAWA	714480	50.18	–96.06	7	435	17
PORTAGE SOUTHPORT A	718510	49.90	–98.27	7	515	20
ROBLIN	715530	51.18	–101.36	7	466	18
SHOAL LAKE CS	711500	50.45	–100.60	7	504	20
SPRAGUE	714490	49.02	–95.60	7	622	24
SWAN RIVER RCS	714430	52.12	–101.23	7	468	18
THE PAS A	718670	53.97	–101.10	7	470	18
THOMPSON A	710790	55.80	–97.86	8	520	20

TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
VICTORIA BEACH (AUT)	715520	50.70	–96.57	7	489	19
WASAGAMING	714440	50.66	–99.94	7	528	21
WILSON CREEK WEIR CS	711490	50.71	–99.53	7	536	21
WINNIPEG RICHARDSON INT'L A	718520	49.92	–97.23	7	523	21
New Brunswick (NB)						
BAS CARAQUET	715980	47.80	–64.83	6A	1049	41
CHARLO A	717110	47.98	–66.33	7	1112	44
FREDERICTON A	717000	45.87	–66.53	6A	1151	45
MIRAMICHI A	717170	47.01	–65.47	7	1090	43
MIRAMICHI RCS	717440	47.01	–65.46	6A	1090	43
MISCOU ISLAND (AUT)	717190	48.01	–64.49	7	1037	41
MONCTON A	717050	46.10	–64.69	6A	1290	51
POINT ESCUMINAC (AUT)	714140	47.07	–64.80	6A	1133	45
POINT LEPREAU CS	716990	45.07	–66.45	6A	1253	49
SAINT JOHN A	716090	45.32	–65.89	6A	1317	52
ST LEONARD CS	710190	47.16	–67.83	7	997	39
ST STEPHEN (AUT)	716070	45.22	–67.25	6A	1149	45
Newfoundland and Labrador (NL)						
ARGENTIA (AUT)	718070	47.29	–53.99	6A	1304	51
BADGER (AUT)	714000	48.97	–56.07	7	1072	42
BONAVISTA	711960	48.67	–53.11	6A	1068	42
BURGEO 2	711940	47.62	–57.62	6A	1818	72
CAPE KAKKIVIAK	711760	59.98	–64.16	8	376	15
CAPE RACE (AUT)	718000	46.66	–53.08	6A	1378	54
CARTWRIGHT	718180	53.71	–57.04	7	1060	42
CHURCHILL FALLS	711820	53.56	–64.09	8	999	39
COMFORT COVE	711930	49.27	–54.88	7	1213	48
CORNER BROOK	719730	48.93	–57.92	6A	1222	48
DANIELS HARBOUR	711850	50.24	–57.58	7	1164	46
DEER LAKE A	718090	49.22	–57.40	7	1105	44
ENGLEE (AUT)	714170	50.72	–56.11	7	1022	40
FEROLLE POINT (AUT)	714060	51.02	–57.10	7	1185	47
GANDER INT'L A	718030	48.95	–54.58	7	1255	49
GOOSE A	718160	53.32	–60.42	7	996	39
GRATES COVE	713360	48.17	–52.94	6A	1408	55
HOPEDALE (AUT)	719000	55.45	–60.22	8	884	35
LA SCIE	713370	49.92	–55.67	7	1293	51
MARTICOT ISLAND	716920	47.33	–54.59	6A	1395	55
POOLS ISLAND	719310	49.11	–53.58	6A	1015	40
PORT AUX BASQUES	711970	47.57	–59.15	7	1563	62
SAGLEK	713350	58.33	–62.59	8	836	33
SAGONA ISLAND	714080	47.37	–55.79	6A	1574	62
ST ANTHONY	715580	51.38	–56.10	7	1183	47
ST JOHN'S A	718010	47.62	–52.74	6A	1547	61
ST LAWRENCE	718020	46.92	–55.38	6A	1603	63
STEPHENVILLE A	718150	48.53	–58.55	6A	1364	54
TWILLINGATE (AUT)	714020	49.68	–54.80	7	1015	40
WABUSH LAKE A	718250	52.93	–66.87	8	936	37
Nova Scotia (NS)						
AMHERST (AUT)	714100	45.85	–64.27	6A	1212	48
BACCARO POINT	716910	43.45	–65.47	6A	1258	50
BEAVER ISLAND (AUT)	714030	44.82	–62.33	6A	1472	58
BRIER ISLAND	719880	44.29	–66.35	6A	1202	47
CARIBOU POINT (AUT)	714150	45.77	–62.68	6A	1063	42

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TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
GRAND ETANG	715970	46.55	–61.05	6A	1202	47
GREENWOOD A	713970	44.98	–64.92	6A	1253	49
HALIFAX STANFIELD INT'L A	713950	44.88	–63.52	6A	1532	60
HART ISLAND (AUT)	714190	45.35	–60.98	6A	1464	58
KEJIMKUJIK 1	715990	44.43	–65.20	6A	1438	57
SABLE ISLAND	716000	43.93	–60.01	5A	1392	55
SHEARWATER A	716010	44.63	–63.50	6A	1414	56
SHEARWATER JETTY	CAN35X	44.63	–63.52	5A	1414	56
ST PAUL ISLAND (AUT)	714180	47.23	–60.14	6A	1391	55
SYDNEY A	717070	46.17	–60.05	6A	1523	60
WESTERN HEAD	714110	43.99	–64.66	6A	1405	55
YARMOUTH A	716030	43.83	–66.09	6A	1305	51
Northwest Territories (NT)						
AULAVIK NATIONAL PARK	719740	74.14	–119.99	8	116	5
CAPE PARRY A	719480	70.17	–124.72	8	154	6
COLVILLE LAKE	710550	67.04	–126.08	8	317	12
FORT GOOD HOPE CS	714910	66.24	–128.64	8	317	12
FORT LIARD	714970	60.23	–123.47	8	435	17
FORT PROVIDENCE	710870	61.32	–117.60	8	266	10
FORT RELIANCE	710730	62.72	–109.17	8	283	11
FORT SIMPSON A	719460	61.76	–121.24	8	376	15
FORT SMITH A	719340	60.02	–111.96	8	373	15
HANBURY RIVER	719630	63.60	–105.13	8	275	11
HAY RIVER A	719350	60.84	–115.78	8	373	15
INNER WHALEBACKS	711620	61.92	–113.73	8	283	11
INUVIK A	719570	68.30	–133.48	8	267	11
LAC LA MARTRE	711630	63.13	–117.25	8	265	10
LINDBURG LANDING	716820	61.12	–122.85	8	399	16
LITTLE CHICAGO	711640	67.18	–130.23	8	310	12
LIVERPOOL BAY	719600	69.60	–130.91	8	130	5
MOULD BAY A	710720	76.23	–119.33	8	114	4
NICHOLSON PENINSULA	719560	69.93	–128.97	8	107	4
NORMAN WELLS A	710430	65.28	–126.80	8	336	13
PELLY ISLAND	715020	69.63	–135.44	8	194	8
RAE LAKES	711650	64.11	–117.33	8	260	10
SACHS HARBOUR CLIMATE	714670	71.99	–125.25	8	134	5
TROUT LAKE	711660	60.44	–121.24	8	405	16
TUKTOYAKTUK	719850	69.43	–133.02	8	136	5
YELLOWKNIFE A	719360	62.46	–114.44	8	287	11
YOHIN	710200	61.24	–123.74	8	413	16
Nunavut (NU)						
ALERT	710820	82.52	–62.28	8	172	7
BAKER LAKE A	719260	64.30	–96.08	8	272	11
BREVOORT ISLAND	710970	63.34	–64.15	8	624	25
BYRON BAY A	719290	68.75	–109.07	8	121	5
CAMBRIDGE BAY A	719250	69.11	–105.14	8	149	6
CAPE DORSET A	719100	64.23	–76.53	8	402	16
CAPE DYER	710940	66.65	–61.38	8	627	25
CAPE HOOPER	710930	68.47	–66.82	8	265	10
CAPE MERCY	719750	64.96	–63.58	8	467	18
CAPE PEEL WEST	710640	69.04	–107.82	8	133	5
CLINTON POINT	710530	69.58	–120.80	8	161	6
CLYDE A	710900	70.49	–68.52	8	239	9
CORAL HARBOUR A	719150	64.19	–83.36	8	299	12

TABLE A-5 Canada Stations and Climate Zones *(Continued)*
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Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CROKER RIVER	710590	69.28	–119.22	8	183	7
DEWAR LAKES	710920	68.65	–71.17	8	248	10
ENNADAI LAKE (AUT)	719230	61.13	–100.88	8	326	13
EUREKA	719170	79.98	–85.93	8	76	3
FOX FIVE	710960	67.54	–63.79	8	289	11
GLADMAN POINT A	719270	68.67	–97.80	8	125	5
HALL BEACH A	710810	68.78	–81.24	8	235	9
HAT ISLAND	710840	68.32	–100.09	8	204	8
IQALUIT A	719090	63.75	–68.55	8	422	17
JENNY LIND ISLAND A	710710	68.65	–101.73	8	116	5
KUGLUKTUK A	719380	67.82	–115.14	8	263	10
LADY FRANKLIN POINT A	719370	68.50	–113.22	8	121	5
LONGSTAFF BLUFF	710910	68.90	–75.14	8	212	8
MACKAR INLET	710800	68.30	–85.67	8	187	7
PANGNIRTUNG	718260	66.15	–65.72	8	427	17
PELLY BAY	719190	68.43	–89.72	8	240	9
POND INLET A	710950	72.68	–77.98	8	196	8
RANKIN INLET A	710830	62.82	–92.12	8	324	13
RESOLUTE CARS	719240	74.72	–94.99	8	152	6
RESOLUTION ISLAND	719720	61.60	–64.63	8	364	14
ROBERTSON LAKE (AUT)	714900	65.10	–102.43	8	256	10
SHEPHERD BAY A	719110	68.82	–93.43	8	155	6
Ontario (ON)						
ARMSTRONG (AUT)	718410	50.29	–88.91	7	737	29
ATIKOKAN (AUT)	717470	48.76	–91.63	7	798	31
BANCROFT AUTO	712940	45.07	–77.88	7	873	34
BEAUSOLEIL	712720	44.85	–79.87	6A	934	37
BELLE RIVER	712730	42.30	–82.70	5A	804	32
BIG TROUT LAKE	718480	53.83	–89.87	8	582	23
BIG TROUT LAKE READAC	718440	53.82	–89.90	8	582	23
BURLINGTON PIERS (AUT)	714370	43.30	–79.80	5A	827	33
COBOURG (AUT)	714310	43.95	–78.17	6A	808	32
COLLINGWOOD	712700	44.50	–80.22	6A	766	30
COVE ISLAND (AUT)	714390	45.33	–81.73	6A	869	34
EARLTON A	717350	47.70	–79.85	7	801	32
ERIEAU (AUT)	714650	42.25	–81.90	5A	797	31
GERALDTON A	718340	49.78	–86.93	7	774	30
GODERICH	712610	43.77	–81.72	5A	981	39
GORE BAY A	717330	45.88	–82.57	6A	834	33
GREAT DUCK ISLAND (AUT)	714620	45.63	–82.95	6A	809	32
GRENADIER ISLAND	712810	44.42	–75.85	6A	947	37
KAPUSKASING A	718310	49.41	–82.47	7	891	35
KENORA A	718500	49.79	–94.37	7	674	27
KILLARNEY (AUT)	714600	45.97	–81.48	6A	839	33
LAGOON CITY	712820	44.55	–79.22	6A	929	37
LANSDOWNE HOUSE (AUT)	718460	52.20	–87.94	7	719	28
LONDON INT'L AIRPORT	716230	43.03	–81.15	5A	981	39
LONG POINT (AUT)	714640	42.57	–80.05	5A	948	37
MOOSONEE A	718360	51.29	–80.61	7	722	28
MOUNT FOREST (AUT)	716310	43.98	–80.75	6A	969	38
NAGAGAMI (AUT)	718320	49.75	–84.16	7	793	31
NORTH BAY A	717310	46.36	–79.42	7	1012	40
OTTAWA MACDONALD-CARTIER INT'	716280	45.32	–75.67	6A	922	36
PEAWANUCK (AUT)	714340	54.98	–85.43	8	602	24

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TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
PETAWAWA A	716250	45.95	–77.32	7	851	34
PETERBOROUGH A	716290	44.23	–78.37	6A	843	33
PICKLE LAKE (AUT)	718350	51.45	–90.22	7	726	29
POINT PETRE (AUT)	714300	43.83	–77.15	6A	965	38
PORT COLBORNE (AUT)	714630	42.87	–79.25	5A	986	39
PORT WELLER (AUT)	714320	43.25	–79.22	5A	890	35
PUKASKWA (AUT)	717500	48.59	–86.29	7	865	34
RED LAKE A	718540	51.07	–93.79	7	668	26
ROYAL ISLAND (AUT)	CAN21X	49.47	–94.76	7	613	24
SAULT STE MARIE A	712600	46.48	–84.51	6A	932	37
SIOUX LOOKOUT A	718420	50.12	–91.90	7	739	29
SUDBURY A	717300	46.62	–80.80	7	917	36
THUNDER BAY A	717490	48.37	–89.33	7	731	29
TIMMINS VICTOR POWER A	717390	48.57	–81.38	7	921	36
TORONTO BUTTONVILLE A	716390	43.86	–79.37	6A	781	31
TORONTO ISLAND A	712650	43.63	–79.40	5A	848	33
TORONTO LESTER B. PEARSON INT	716240	43.68	–79.63	5A	785	31
TRENTON A	716210	44.12	–77.53	6A	858	34
UPSALA (AUT)	714350	49.03	–90.47	7	715	28
WAWA (AUT)	717380	47.97	–84.78	7	906	36
WELCOME ISLAND (AUT)	717510	48.37	–89.12	7	659	26
WIARTON A	716330	44.75	–81.11	6A	1049	41
WINDSOR A	715380	42.28	–82.96	5A	920	36
Prince Edward Island (PE)						
CHARLOTTETOWN A	717060	46.29	–63.13	6A	1217	48
EAST POINT (AUT)	714120	46.46	–61.99	6A	1285	51
NORTH CAPE	719870	47.06	–64.00	6A	1103	43
SUMMERSIDE	717020	46.44	–63.84	6A	1077	42
Quebec (QC)						
AMQUI	713860	48.47	–67.43	7	1028	40
BAGOTVILLE A	717270	48.33	–71.00	7	966	38
BAIE-COMEAU	718290	49.26	–68.15	7	981	39
BAIE-COMEAU A	711870	49.13	–68.20	7	1045	41
BARRAGE TEMISCAMINGUE	717320	46.71	–79.10	6A	956	38
BEAUCEVILLE	713230	46.20	–70.78	7	1127	44
BLANC-SABLON A	718080	51.45	–57.18	7	1091	43
BONNARD 1	713830	50.73	–71.01	7	1006	40
CAP-CHAT	714280	49.11	–66.65	7	928	37
CAP-D'ESPOIR	714290	48.42	–64.32	7	1089	43
CAP-MADELEINE	714250	49.25	–65.32	7	897	35
CAP-ROUGE	711860	48.37	–70.54	7	944	37
CAP-TOURMENTE	713840	47.08	–70.78	6A	1104	43
CHARLEVOIX (MRC)	713190	47.28	–70.64	7	1103	43
CHEVERY	718140	50.46	–59.64	7	1161	46
CHIBOUGAMAU CHAPAIS A	718220	49.77	–74.53	7	969	38
CHUTE-DES-PASSES	715220	49.84	–71.17	7	1091	43
DESCHAMBAULT	713890	46.69	–71.97	7	1134	45
FRELIGHSBURG	713730	45.05	–72.86	6A	1180	46
GASPE A	711880	48.78	–64.48	7	1048	41
HAVRE-SAINT-PIERRE A	713130	50.28	–63.60	7	1094	43
HEATH POINT	714230	49.09	–61.70	7	1030	41
ILE AUX PERROQUETS	713750	50.22	–64.21	7	1099	43
ILE ROUGE	714260	48.07	–69.56	7	998	39
ILES DE LA MADELEINE	717100	47.43	–61.77	6A	1049	41

TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
INUKJUAK A	719070	58.47	–78.08	8	457	18
JONQUIERE	716170	48.42	–71.15	7	948	37
KUUJJUAQ A	719060	58.10	–68.42	8	520	20
KUUJJUARAPIK A	719050	55.28	–77.75	8	667	26
LA BAIE	713880	48.30	–70.92	7	966	38
LA GRANDE IV A	718230	53.76	–73.68	8	773	30
LA GRANDE RIVIERE A	718270	53.63	–77.70	8	683	27
LA POCATIERE	717130	47.36	–70.03	6A	963	38
LA TUQUE	713780	47.41	–72.79	7	959	38
LAC BENOIT	715200	51.53	–71.11	8	925	36
LAC EON	714210	51.87	–63.28	8	1058	42
LAC SAINT-PIERRE	711980	46.18	–72.92	6A	993	39
L'ACADIE	713720	45.29	–73.35	6A	1021	40
L'ASSOMPTION	715240	45.81	–73.43	6A	999	39
LENNOXVILLE	716110	45.37	–71.82	6A	1095	43
L'ETAPE	713820	47.56	–71.23	7	1261	50
LONGUE-POINTE-DE-MINGAN	715120	50.27	–64.23	7	1108	44
MANIWAKI AIRPORT	717210	46.27	–75.99	7	966	38
MANIWAKI UA	717220	46.30	–76.01	7	928	37
MANOUANE EST	715210	50.66	–70.53	8	908	36
MATAGAMI A	718210	49.77	–77.80	7	838	33
MCTAVISH	716120	45.50	–73.58	6A	1096	43
MISTOOK	713810	48.60	–71.72	7	942	37
MONT-JOLI A	717180	48.60	–68.22	7	969	38
MONT-ORFORD	716180	45.31	–72.24	7	1082	43
MONTREAL/MIRABEL INT'L A	716260	45.67	–74.03	6A	1024	40
MONTREAL/PIERRE ELLIOTT TRUDE	716270	45.47	–73.75	6A	988	39
MONTREAL/ST-HUBERT A	713710	45.52	–73.42	6A	1027	40
MONTREAL-EST	716750	45.63	–73.55	6A	1013	40
NATASHQUAN A	718130	50.18	–61.82	7	1182	47
NEW CARLISLE 1	716190	48.01	–65.33	7	1015	40
NICOLET	717230	46.23	–72.66	6A	1026	40
NORMANDIN	713790	48.84	–72.55	7	913	36
ONATCHIWAY	713870	48.89	–71.03	7	937	37
PARENT	717260	47.92	–74.62	7	1015	40
POINTE CLAVEAU	711890	48.26	–70.11	7	995	39
POINTE NOIRE CS	713900	50.16	–66.43	7	1119	44
POINTE-AU-PERE (INRS)	715540	48.51	–68.47	7	888	35
POINTE-DES-MONTS	714270	49.32	–67.38	7	982	39
PORT-MENIER	718100	49.84	–64.29	7	1047	41
QUEBEC/JEAN LESAGE INTL A	717080	46.80	–71.38	7	1266	50
RIVIERE-DU-LOUP	717150	47.81	–69.55	7	981	39
ROBERVAL A	717280	48.52	–72.27	7	872	34
ROUYN	717340	48.25	–79.03	7	865	34
ROUYN A	717400	48.22	–78.83	7	882	35
SCHEFFERVILLE A	718280	54.80	–66.82	8	784	31
SEPT-ILES A	718110	50.22	–66.27	7	1173	46
SHERBROOKE A	716100	45.43	–71.68	7	1162	46
ST-ANICET 1	717120	45.12	–74.29	6A	968	38
STE AGATHE DES MONTS	717200	46.05	–74.28	7	1236	49
STE-ANNE-DE-BELLEVUE 1	713770	45.43	–73.93	6A	958	38
STE-CLOTHILDE	716140	45.17	–73.68	6A	925	36
STE-FOY (U. LAVAL)	713920	46.78	–71.29	6A	1266	50
ST-JOVITE	713760	46.08	–74.56	7	1130	44

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TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
TROIS-RIVIERES	717240	46.35	–72.52	6A	1024	40
VAL-D'OR A	717250	48.06	–77.79	7	981	39
VARENNES	711840	45.72	–73.38	6A	1027	40
Saskatchewan (SK)						
ASSINIBOIA AIRPORT	714870	49.73	–105.93	7	400	16
BROADVIEW	718610	50.37	–102.57	7	416	16
COLLINS BAY	710750	58.18	–103.70	8	546	21
CORONACH SPC	715160	49.05	–105.48	7	338	13
CREE LAKE	719200	57.35	–107.13	8	476	19
CYPRESS HILLS PARK	711390	49.65	–109.52	7	346	14
EASTEND CYPRESS (AUT)	711310	49.43	–108.98	7	386	15
ELBOW CS	714500	51.13	–106.58	7	325	13
ESTEVAN A	718620	49.22	–102.97	7	434	17
HUDSON BAY	718680	52.82	–102.32	7	479	19
INDIAN HEAD CDA	715150	50.55	–103.65	7	444	17
KEY LAKE A	714880	57.25	–105.60	8	493	19
KINDERSLEY A	711290	51.52	–109.18	7	324	13
LA RONGE A	719220	55.15	–105.27	7	501	20
LAST MOUNTAIN CS	715560	51.42	–105.25	7	384	15
LEADER AIRPORT	714590	50.90	–109.50	7	365	14
LUCKY LAKE	714550	50.95	–107.15	7	342	13
MAPLE CREEK	714530	49.90	–109.47	6A	371	15
MEADOW LAKE A	711250	54.13	–108.52	7	431	17
MELFORT	714560	52.82	–104.60	7	416	16
MOOSE JAW A	718640	50.33	–105.55	7	375	15
MOOSE JAW CS	715390	50.33	–105.56	7	375	15
NIPAWIN A	711300	53.33	–104.00	7	453	18
NORTH BATTLEFORD A	718760	52.77	–108.26	7	391	15
OUTLOOK PFRA	715510	51.48	–107.05	7	350	14
PRINCE ALBERT A	718690	53.22	–105.67	7	426	17
REGINA A	718630	50.43	–104.67	7	395	16
ROCKGLEN (AUT)	711350	49.17	–105.98	7	335	13
ROSETOWN EAST	715100	51.57	–107.92	7	347	14
SASKATOON DIEFENBAKER INT'L A	718660	52.17	–106.72	7	364	14
SASKATOON KERNEN FARM	715130	52.15	–106.55	7	364	14
SCOTT CDA	714890	52.36	–108.83	7	388	15
SOUTHEND	714510	56.33	–103.28	8	535	21
SPIRITWOOD WEST	711330	53.37	–107.55	7	417	16
STONY RAPIDS A	711320	59.25	–105.83	8	429	17
SWIFT CURRENT A	718700	50.30	–107.68	7	389	15
SWIFT CURRENT CDA	714460	50.27	–107.73	7	389	15
URANIUM CITY (AUT)	710760	59.57	–108.48	8	379	15
VAL MARIE SOUTHEAST	711370	49.07	–107.58	7	295	12
WASKESIU LAKE	714540	53.92	–106.07	7	414	16
WATROUS EAST	715110	51.67	–105.40	7	379	15
WEYBURN	714520	49.70	–103.80	7	391	15
WYNYARD (AUT)	718650	51.77	–104.20	7	429	17
YORKTON A	711380	51.27	–102.47	7	457	18
Yukon (YT)						
BURWASH A	719670	61.37	–139.05	8	302	12
FARO (AUT)	719490	62.23	–133.35	8	275	11
HAINES JUNCTION	715050	60.77	–137.58	8	334	13
HERSCHEL ISLAND	715010	69.57	–138.91	8	188	7
IVVAVIK NAT. PARK	719780	69.16	–140.15	8	176	7

TABLE A-5 Canada Stations and Climate Zones *(Continued)*
[Note: Design Conditions tables (SI and I-P) for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data)

Province/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
KOMAKUK BEACH	710460	69.61	–140.20	8	168	7
MAYO A	719650	63.62	–135.87	8	329	13
ROCK RIVER	715060	66.98	–136.22	8	337	13
SHINGLE POINT A	719680	68.95	–137.22	8	260	10
TESLIN (AUT)	710450	60.17	–132.73	8	340	13
WATSON LAKE A	719530	60.12	–128.82	8	436	17
WHITEHORSE A	719640	60.71	–135.07	7	281	11

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TABLE A-6 International Stations and Climate Zones
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Albania (ALB)						
TIRANA	136150	41.33	19.78	3A	1234	49
Algeria (DZA)						
ADRAR	606200	27.88	–0.18	1B	14	1
ANNABA	603600	36.83	7.82	3A	630	25
BATNA	604680	35.75	6.32	3B	362	14
BECHAR	605710	31.50	–2.25	2B	87	3
BEJAIA-AEROPORT	604020	36.72	5.07	3A	776	31
BISKRA	605250	34.80	5.73	2B	110	4
BORDJ-BOU-ARRERIDJ	604440	36.07	4.77	3B	420	17
CONSTANTINE	604190	36.28	6.62	3A	516	20
DAR-EL-BEIDA	603900	36.68	3.22	3A	701	28
DJANET	606700	24.27	9.47	2B	21	1
EL-BAYADH	605500	33.67	1.00	4B	269	11
EL-GOLEA	605900	30.57	2.87	2B	37	1
EL-OUED	605590	33.50	6.78	2B	71	3
GHARDAIA	605660	32.40	3.80	2B	65	3
HASSI-MESSAOUD	605810	31.67	6.15	2B	40	2
ILLIZI	606400	26.50	8.42	1B	18	1
IN-AMENAS	606110	28.05	9.63	2B	25	1
IN-SALAH	606300	27.23	2.50	0B	12	0
JIJEL-ACHOUAT	603510	36.80	5.88	3A	943	37
MASCARA-MATEMORE	605060	35.60	0.30	3A	443	17
MECHERIA	605490	33.58	–0.28	3B	231	9
ORAN-SENIA	604900	35.63	–0.60	3A	368	15
OUARGLA	605800	31.93	5.40	2B	50	2
SETIF	604450	36.18	5.25	4A	492	19
SKIKDA	603550	36.88	6.90	3A	734	29
TAMANRASSET	606800	22.80	5.43	2B	40	2
TAMANRASSET	606805	22.80	5.45	2B	40	2
TEBESSA	604750	35.42	8.12	3B	369	15
TIARET	605110	35.35	1.47	3B	355	14
TINDOUF	606560	27.70	–8.17	1B	51	2
TLEMCEN-ZENATA	605310	35.02	–1.47	3A	468	18
TOUGGOURT	605550	33.12	6.13	2B	58	2
American Samoa (ASM)						
PAGO PAGO WSO AP	917650	–14.33	–170.71	0A	2990	118
Antarctica (ATA)						
BASE ARTURO PRAT	890570	–62.50	–59.68	8	902	35
BASE ESPERANZA	889630	–63.40	–56.98	8	840	33
BASE JUBANY	890530	–62.23	–58.63	8	905	36
BASE MARAMBIO	890550	–64.23	–56.72	8	792	31
BASE ORCADAS	889680	–60.73	–44.73	8	902	35
BASE SAN MARTIN	890660	–68.12	–67.13	8	624	25
BELLINGSHAUSEN AWS	890500	–62.20	–58.93	8	905	36
BERNARDO O'HIGGINS	890590	–63.32	–57.90	8	858	34
BUTLER ISLAND	892660	–72.21	–60.17	8	610	24
CASEY	896110	–66.28	110.52	8	398	16
DAVIS	895710	–68.58	77.95	8	281	11
DINAMET-URUGUAY	890540	–62.18	–58.83	8	905	36
DUMONT DURVILLE	896420	–66.67	140.02	8	431	17
FREI CHI-BASE	890560	–62.18	–58.98	8	905	36
GREAT WALL	890580	–62.22	–58.97	8	905	36

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
HALLEY	890220	–75.50	–26.65	8	307	12
MANUELA	898640	–74.95	163.69	8	350	14
MARBLE POINT	898660	–77.43	163.75	8	190	7
MAWSON	895640	–67.60	62.87	8	307	12
MIRNYJ	895920	–66.55	93.02	8	745	29
MOLODEZNAJA	895420	–67.67	45.85	8	529	21
MOUNT SIPLE	893270	–73.20	–127.05	8	504	20
NEUMAYER	890020	–70.67	–8.25	8	394	16
NOVOLAZAREVSKAJA	895120	–70.77	11.83	8	354	14
POSSESSION ISLAND	898790	–71.89	171.21	8	453	18
SIPLE DOME	893450	–81.65	–148.77	8	285	11
SYOWA	895320	–69.00	39.58	8	449	18
Antigua and Barbuda (ATG)						
VC BIRD INTL AIRPOR	788620	17.12	–61.78	0A	883	35
Argentina (ARG)						
AEROPARQUE BS. AS.	875820	–34.57	–58.42	3A	1049	41
BAHIA BLANCA AERO	877500	–38.73	–62.17	3A	632	25
BARILOCHE AERO	877650	–41.15	–71.17	5C	801	32
CATAMARCA AERO.	872220	–28.60	–65.77	2B	383	15
CERES AERO	872570	–29.88	–61.95	3A	936	37
COMODORO RIVADAVIA	878600	–45.78	–67.50	4C	238	9
CONCORDIA AERO	873950	–31.30	–58.02	3A	1298	51
CORDOBA AERO	873440	–31.32	–64.22	3A	827	33
CORRIENTES AERO.	871660	–27.45	–58.77	2A	1460	57
ESQUEL AERO	878030	–42.93	–71.15	5C	488	19
EZEIZA AERO	875760	–34.82	–58.53	3A	967	38
FORMOSA AERO	871620	–26.20	–58.23	2A	1411	56
GUALEGUAYCHU AERO	874970	–33.00	–58.62	3A	1038	41
IGUAZU AERO	870970	–25.73	–54.47	2A	1826	72
JUJUY AERO	870460	–24.38	–65.08	3A	818	32
JUNIN AERO	875480	–34.55	–60.92	3A	983	39
LA RIOJA AERO.	872170	–29.38	–66.82	2B	361	14
LAGO ARGENTINO ARPT	879030	–50.33	–72.30	5C	200	8
MALARGUE AERO	875060	–35.50	–69.58	4B	285	11
MAR DEL PLATA AERO	876920	–37.93	–57.58	3A	879	35
MARCOS JUAREZ AERO	874670	–32.70	–62.15	3A	884	35
MENDOZA AERO	874180	–32.83	–68.78	3B	196	8
MONTE CASEROS AERO	873930	–30.27	–57.65	2A	1466	58
NEUQUEN AERO	877150	–38.95	–68.13	3B	194	8
PARANA AERO	873740	–31.78	–60.48	3A	1025	40
PASO DE LOS LIBRES	872890	–29.68	–57.15	2A	1492	59
POSADAS AERO.	871780	–27.37	–55.97	2A	1686	66
PRESIDENCIA ROQUE S	871490	–26.82	–60.45	2A	1054	41
RECONQUISTA AERO	872700	–29.18	–59.70	2A	1206	47
RESISTENCIA AERO	871550	–27.45	–59.05	2A	1335	53
RIO CUARTO AERO	874530	–33.12	–64.23	3A	827	33
RIO GALLEGOS AERO	879250	–51.62	–69.28	5B	253	10
RIO GRANDE B.A.	879340	–53.80	–67.75	6A	325	13
ROSARIO AERO	874800	–32.92	–60.78	3A	977	38
SALTA AERO	870470	–24.85	–65.48	3A	740	29
SAN ANTONIO OESTE A	877840	–40.78	–65.10	3B	242	10
SAN JUAN AERO	873110	–31.40	–68.42	3B	92	4
SAN JULIAN AERO	879090	–49.32	–67.75	5B	243	10

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
SAN LUIS AERO	874360	–33.27	–66.35	3B	617	24
SAN MARTIN	874160	–33.08	–68.42	3B	169	7
SAN RAFAEL AERO	875090	–34.58	–68.40	3B	336	13
SANTA ROSA AERO	876230	–36.57	–64.27	3A	695	27
SANTIAGO DEL ESTERO	871290	–27.77	–64.30	2B	577	23
SAUCE VIEJO AERO	873710	–31.70	–60.82	3A	991	39
TANDIL AERO	876450	–37.23	–59.25	3A	969	38
TARTAGAL AERO	870220	–22.65	–63.82	2A	1008	40
TRELEW AERO	878280	–43.20	–65.27	3B	183	7
TUCUMAN AERO	871210	–26.85	–65.10	2A	1078	42
USHUAIA AERO	879380	–54.80	–68.32	6A	525	21
VIEDMA AERO	877910	–40.85	–63.02	3B	353	14
VILLA REYNOLDS AERO	874480	–33.73	–65.38	3A	700	28
Armenia (ARM)						
AMASIA	376820	40.78	43.83	6A	599	24
SEVAN	377090	40.55	44.93	6A	498	20
YEREVAN/YEREVAN-ARA	377890	40.13	44.47	4B	342	13
Aruba (ABW)						
QUEEN BEATRIX AIRPO	789820	12.50	–70.02	0B	417	16
Australia (AUS)						
ADELAIDE AIRPORT	946720	–34.95	138.53	3B	446	18
ADELAIDE REGIONAL O	946750	–34.92	138.62	3A	552	22
ADELE ISLAND	942100	–15.52	123.15	0A	847	33
AIREYS INLET	948460	–38.45	144.10	3A	679	27
ALBANY AIRPORT	948020	–34.93	117.80	3C	806	32
ALBURY AEROPORT	958960	–36.07	146.95	3A	722	28
ALICE SPRINGS AIRPO	943260	–23.80	133.88	2B	296	12
AMBERLEY AMO	945680	–27.63	152.72	2A	859	34
APPLETHORPE GBHRS A	945530	–28.62	151.95	3A	784	31
ARARAT PRISON	948340	–37.28	142.98	4A	594	23
ARCHERFIELD AIRPORT	945750	–27.57	153.00	2A	1178	46
ARGYLE AERODROME	942170	–16.63	128.45	0B	725	29
AVALON AIRPORT	948540	–38.03	144.47	3A	564	22
BALLARAT AERODROME	948520	–37.52	143.78	4A	681	27
BANKSTOWN AIRPORT A	947650	–33.92	150.98	3A	911	36
BATCHELOR AERO	941250	–13.05	131.02	0A	1389	55
BATHURST AIRPORT AW	947290	–33.42	149.65	4A	654	26
BEGA AWS	959310	–36.67	149.82	3A	839	33
BENDIGO AIRPORT AWS	948550	–36.73	144.32	3A	582	23
BILOELA THANGOOL AI	943760	–24.48	150.57	2B	661	26
BIRDSVILLE POLICE S	944820	–25.90	139.35	2B	172	7
BOMBALA AWS	949290	–37.00	149.23	4A	660	26
BORROLOOLA	941520	–16.08	136.30	1A	935	37
BOULIA AIRPORT	943330	–22.92	139.90	1B	259	10
BOURKE AIRPORT AWS	947030	–30.03	145.95	2B	366	14
BOWEN AIRPORT	943660	–20.02	148.20	1A	974	38
BRAIDWOOD RACECOURS	949270	–35.43	149.78	4A	773	30
BRISBANE AERO	945780	–27.38	153.13	2A	1130	44
BROKEN HILL AIRPORT	946910	–32.00	141.47	3B	266	10
BROOME AIRPORT	942030	–17.95	122.23	0B	660	26
BUNDABERG AERO	943870	–24.90	152.32	2A	1015	40
BURKETOWN POST OFFI	942590	–17.75	139.55	1B	753	30
BUSSELTON AERO	956110	–33.68	115.40	3C	791	31

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CAIRNS AERO	942870	–16.88	145.75	1A	2013	79
CAMDEN AIRPORT	947550	–34.03	150.68	3A	857	34
CANBERRA AIRPORT	949260	–35.30	149.20	4A	614	24
CANTERBURY RACECOUR	947660	–33.90	151.12	3A	1104	43
CAPE BORDA	948050	–35.75	136.58	3C	604	24
CAPE BRUNY LIGHTHOU	949670	–43.50	147.15	4A	1006	40
CAPE DON AWS	941290	–11.32	131.77	0A	1310	52
CAPE FOURCROY	941220	–11.78	130.02	0A	1845	73
CAPE GRIM B.A.P.S.	949540	–40.67	144.68	4A	946	37
CAPE JAFFA AWS	948130	–36.97	139.72	3C	569	22
CAPE LEEUWIN	946010	–34.37	115.13	3C	1017	40
CAPE MORETON LIGHTH	945940	–27.03	153.47	2A	1532	60
CAPE NATURALISTE	946000	–33.53	115.02	3C	834	33
CAPE NELSON LIGHTHO	948260	–38.43	141.55	3C	774	30
CAPE OTWAY LIGHTHOU	948420	–38.85	143.52	3A	954	38
CAPE SORELL	949740	–42.20	145.17	4A	1603	63
CAPE WESSEL AWS	941470	–11.02	136.75	0A	1365	54
CARNARVON AIRPORT	943000	–24.88	113.67	2B	211	8
CATO ISLAND	943940	–23.25	155.53	1A	814	32
CEDUNA AMO	946530	–32.13	133.70	3C	287	11
CENTRE ISLAND	942480	–15.75	136.80	0A	981	39
CERBERUS AWS	948980	–38.35	145.17	3A	807	32
CESSNOCK AIRPORT	957710	–32.78	151.33	3A	746	29
CHARLEVILLE AERO	945100	–26.42	146.27	2B	476	19
COBAR AIRPORT AWS	947100	–31.53	145.80	3B	405	16
COBAR MO	947110	–31.48	145.83	3B	405	16
COCONUT ISLAND	941820	–10.05	143.07	0A	1522	60
COFFS HARBOUR MO	947910	–30.32	153.12	3A	1649	65
COMBIENBAR	949140	–37.33	149.02	4A	971	38
CONDOBOLIN AIRPORT	957080	–33.07	147.22	3B	468	18
COOBER PEDY AIRPORT	954580	–29.03	134.72	2B	173	7
COOKTOWN MISSION	942830	–15.43	145.18	1A	1732	68
COOLANGATTA AIRPORT	945920	–28.17	153.50	2A	1710	67
COOMA AIRPORT AWS	949210	–36.30	148.97	4A	541	21
COONABARABRAN NAMOI	947280	–31.27	149.27	3A	826	33
CREAL REEF	943710	–20.53	150.38	1A	858	34
CUNDERDIN AIRFIELD	956250	–31.62	117.22	3A	371	15
CUNNAMULLA POST OFF	945000	–28.07	145.68	2B	384	15
CURTIN AERO	942040	–17.58	123.82	0B	752	30
DARWIN AIRPORT	941200	–12.42	130.88	0A	1730	68
DERBY AERO	952050	–17.37	123.67	0B	632	25
DEVONPORT AIRPORT	959600	–41.17	146.42	4A	792	31
DOUBLE ISLAND POINT	945840	–25.93	153.18	2A	1569	62
DUBBO AIRPORT AWS	957190	–32.22	148.57	3A	617	24
DUNNS HILL	948720	–37.88	145.33	4A	936	37
EAST SALE AIRPORT	949070	–38.10	147.13	3A	586	23
EDDYSTONE POINT	949830	–41.00	148.35	3A	804	32
EDITHBURGH AWS	948090	–35.12	137.73	3C	392	15
EILDON FIRE TOWER	948810	–37.22	145.83	4A	827	33
EMERALD AIRPORT	943630	–23.57	148.18	2B	646	25
ESPERANCE	946380	–33.83	121.88	3C	611	24
ESPERANCE AERO	956380	–33.68	121.83	3C	549	22
FALLS CREEK AWS	949030	–36.87	147.27	6A	1197	47

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
FLINDERS ISLAND AIR	949800	–40.10	148.00	3A	745	29
FLINDERS REEF	942900	–17.72	148.45	1A	945	37
FORBES AIRPORT	947150	–33.37	147.92	3A	558	22
FORREST	956460	–30.83	128.12	3B	199	8
FRANKSTON AWS	948710	–38.15	145.12	3A	773	30
GABO ISLAND	949330	–37.57	149.90	3A	958	38
GANNET CAY	943790	–21.97	152.47	1A	821	32
GAYNDAH POST OFFICE	945430	–25.63	151.62	2A	723	28
GEELONG AIRPORT	948570	–38.23	144.33	3A	564	22
GELANTIPY	949130	–37.22	148.27	4A	794	31
GEORGETOWN POST OFF	942750	–18.30	143.55	1A	812	32
GERALDTON AIRPORT	944030	–28.80	114.70	3A	443	17
GILES METEOROLOGICA	944610	–25.03	128.30	2B	271	11
GLADSTONE AIRPORT	943810	–23.87	151.22	2A	919	36
GLADSTONE RADAR	943800	–23.85	151.27	2A	919	36
GLEN INNES AIRPORT	945880	–29.68	151.70	4A	911	36
GOLD COAST SEAWAY	945800	–27.93	153.43	2A	1522	60
GOLDSTREAM	948640	–37.73	145.40	4A	889	35
GOONDIWINDI AIRPORT	945300	–28.52	150.32	2A	584	23
GOULBURN AIRPORT AW	957160	–34.82	149.73	4A	680	27
GOVE AIRPORT	941500	–12.28	136.82	1A	1437	57
GREEN ISLAND	952890	–16.77	145.97	1A	2315	91
GRIFFITH AWS	947050	–34.32	146.07	3B	407	16
HALLS CREEK AIRPORT	942120	–18.23	127.67	0B	586	23
HAMILTON AIRPORT	948290	–37.65	142.07	4A	667	26
HAY AWS	947010	–34.53	144.87	3B	398	16
HERON ISLAND RES ST	943860	–23.45	151.92	1A	876	34
HOBART AIRPORT	949750	–42.83	147.50	4A	495	19
HOBART ELLERSLIE RO	949700	–42.88	147.33	4A	589	23
HOLMES REEF	942890	–16.47	147.87	1A	1263	50
HOMEBUSH (OLYMPIC SITE)	957650	–33.85	151.07	3A	928	37
HUNTERS HILL	948780	–36.22	147.53	4A	934	37
JABIRU AIRPORT	941370	–12.67	132.90	0A	1450	57
JACUP	956360	–33.88	119.10	3B	429	17
JANDAKOT AERO	946090	–32.10	115.88	3A	838	33
KALGOORLIE-BOULDER	946370	–30.78	121.45	3B	275	11
KARRATHA AERO	953070	–20.72	116.77	1B	252	10
KARRATHA LEGENDRE I	943070	–20.37	116.85	1B	405	16
KATANNING	946290	–33.68	117.55	3A	480	19
KATOOMBA	947440	–33.72	150.28	4A	1390	55
KHANCOBAN	949190	–36.23	148.13	3A	961	38
KILMORE GAP	948600	–37.38	144.97	4A	699	28
KING ISLAND AIRPORT	948500	–39.88	143.88	4C	888	35
KING ISLAND CURRIE	948510	–39.93	143.85	3C	888	35
KUNUNURRA AERO	942160	–15.78	128.72	0B	779	31
KYANCUTTA	946570	–33.13	135.55	3B	300	12
LADY ELLIOT ISLAND	943880	–24.12	152.72	2A	1166	46
LAKE GRACE	946350	–33.12	118.47	3B	345	14
LANCELIN	956060	–31.02	115.32	3A	600	24
LATROBE VALLEY AIRP	948910	–38.22	146.47	3A	760	30
LAUNCESTON AIRPORT	949680	–41.53	147.20	4A	652	26
LAVERTON AERO	944490	–28.62	122.42	2B	246	10
LAVERTON AERODROME	948650	–37.87	144.75	3A	547	22

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
LEARMONTH AIRPORT	943020	–22.23	114.08	1B	235	9
LEINSTER AERO	954480	–27.85	120.70	2B	238	9
LEONORA POST OFFICE	944480	–28.88	121.33	2B	249	10
LIHOU REEF	942960	–17.12	152.00	1A	1026	40
LONGERENONG	958350	–36.67	142.30	3B	422	17
LONGREACH AERO	943460	–23.43	144.28	1B	418	16
LOOKOUT HILL	948350	–37.28	143.25	5A	675	27
LORD HOWE ISLAND AE	949950	–31.53	159.07	3A	1456	57
LOW ROCKY POINT (AWS)	959610	–42.98	145.50	4A	1922	76
LUCINDA POINT AWS	942950	–18.52	146.40	1A	2183	86
MAATSUYKER ISLAND L	949620	–43.65	146.27	4A	1377	54
MACKAY MO	943670	–21.12	149.22	2A	1563	62
MACQUARIE ISLAND	949980	–54.50	158.95	6A	947	37
MALLACOOTA	949350	–37.60	149.73	3A	1020	40
MANDURAH	946050	–32.52	115.72	3A	842	33
MANGALORE AWS COMPO	948740	–36.88	145.18	3A	574	23
MANGROVE MOUNTAIN A	957740	–33.28	151.22	3A	1059	42
MARION REEF	942980	–19.08	152.38	1A	858	34
MARLA POLICE STATIO	944770	–27.30	133.62	2B	229	9
MAROOCHYDORE AERO	945690	–26.60	153.10	2A	1687	66
MARYBOROUGH COMPOSI	945670	–25.52	152.72	2A	1070	42
MEEKATHARRA AIRPORT	944300	–26.62	118.55	2B	246	10
MELBOURNE	948680	–37.82	144.97	3A	635	25
MELBOURNE AIRPORT	948660	–37.67	144.85	3A	537	21
MILDURA AIRPORT	946930	–34.23	142.08	3B	280	11
MILINGIMBI	941400	–12.12	134.90	0A	1199	47
MOOMBA AIRPORT	954810	–28.10	140.20	2B	175	7
MOORABBIN AIRPORT	948700	–37.98	145.10	3A	724	29
MOREE	945270	–29.47	149.85	3A	588	23
MOREE AERO	955270	–29.48	149.83	3A	588	23
MORTLAKE AWS	948400	–38.07	142.77	4A	685	27
MORUYA HEADS PILOT	949370	–35.92	150.15	3A	1014	40
MOUNT BOYCE	947430	–33.62	150.27	4A	1184	47
MOUNT BULLER AWS	948940	–37.15	146.43	6A	1243	49
MOUNT GAMBIER AERO	948210	–37.73	140.78	3C	696	27
MOUNT ISA AERO	943320	–20.68	139.48	1B	446	18
MOUNT LAWLEY PERTH	946080	–31.92	115.87	3A	820	32
MT HOTHAM AWS	949060	–36.97	147.12	7	1336	53
MT LOFTY AWS	956780	–34.97	138.70	4C	651	26
MT MOORNAPA	959130	–37.75	147.13	4A	685	27
MT WELLINGTON	959790	–42.88	147.23	7	662	26
MUDGEE AIRPORT AWS	947270	–32.57	149.62	3A	709	28
NAMBOUR DPI	955720	–26.65	152.93	2A	1680	66
NEPTUNE ISLAND	948040	–35.33	136.12	3C	467	18
NEWCASTLE NOBBYS SI	947740	–32.92	151.78	3A	1130	44
NORAH HEAD LIGHTHOU	957700	–33.27	151.57	3A	1206	47
NORMANTON	942670	–17.67	141.08	0A	853	34
NORSEMAN	946390	–32.20	121.78	3B	305	12
NORTH EAST ISLAND	941510	–13.65	136.93	0A	963	38
NOWRA RAN AIR STATI	947500	–34.95	150.53	3A	1075	42
NULLARBOR ROADHOUSE	946510	–31.45	130.90	3B	265	10
NULLO MOUNTAIN AWS	947540	–32.73	150.23	4A	731	29
OAKEY AERO	945520	–27.42	151.73	3A	638	25

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ONSLOW	943050	–21.63	115.12	1B	287	11
OUSE FIRE STATION	949570	–42.48	146.72	4A	544	21
PARABURDOO AERO	943160	–23.17	117.75	1B	267	10
PARKES (MACARTHUR ST)	947170	–33.13	148.17	3A	634	25
PAYNES FIND	944040	–29.27	117.68	2B	279	11
PEARCE RAAF	946120	–31.67	116.02	3A	660	26
PENRITH	947630	–33.72	150.68	3A	883	35
PERTH AIRPORT	946100	–31.93	115.97	3A	763	30
POINT WILSON	948470	–38.10	144.53	3A	561	22
PORT ARTHUR (PALM.)	949780	–43.17	147.83	4A	1165	46
PORT FAIRY AWS	948300	–38.40	142.23	3A	801	32
PORT HEDLAND AIRPOR	943120	–20.37	118.63	1B	277	11
PORT KEATS AWS AUT	941110	–14.23	129.45	0A	1491	59
PORT MACQUARIE AIRP	947860	–31.43	152.85	3A	1522	60
PORTLAND CASHMORE A	948280	–38.32	141.47	4C	812	32
PROSERPINE AIRPORT	943650	–20.50	148.53	2A	1455	57
QUILPIE AIRPORT	944940	–26.62	144.25	2B	365	14
RAVENSTHORPE HOPETO	956350	–33.93	120.13	3C	519	20
REDESDALE	948590	–37.02	144.53	4A	697	27
RENMARK	946870	–34.17	140.75	3B	259	10
RHYLL (AWS)	948920	–38.45	145.30	3A	829	33
RICHMOND POST OFFIC	943400	–20.73	143.13	1B	489	19
RICHMOND RAAF	957530	–33.60	150.78	3A	842	33
ROCKHAMPTON AERO	943740	–23.38	150.48	2A	791	31
ROEBOURNE POST OFFI	943090	–20.78	117.15	0B	296	12
ROMA AIRPORT	945150	–26.55	148.78	2A	616	24
ROTTNEST ISLAND	946020	–32.02	115.50	3A	629	25
RUNDLE ISLAND	943780	–23.53	151.28	2A	863	34
SCONE AIRPORT	957580	–32.03	150.83	3A	708	28
SCORESBY RESEARCH	958670	–37.87	145.25	3A	936	37
SHARK BAY (DENHAM)	944020	–25.92	113.52	2B	221	9
SHEOAKS AWS	948630	–37.90	144.12	4A	613	24
SHEPPARTON AIRPORT	948750	–36.43	145.40	3A	504	20
SMITHTON AERODROME	949530	–40.83	145.08	4C	1105	44
SOUTHERN CROSS	946340	–31.23	119.33	3B	323	13
SOUTHERN CROSS AIRF	956340	–31.23	119.35	3B	323	13
ST LAWRENCE POST OF	943690	–22.35	149.53	2A	990	39
STRAHAN AERODROME	949560	–42.15	145.28	4A	2101	83
SWAN HILL AERODROME	948430	–35.38	143.53	3B	337	13
SWANBOURNE	946140	–31.95	115.77	3A	820	32
SYDNEY AIRPORT AMO	947670	–33.93	151.18	3A	1104	43
SYDNEY REGIONAL OFF	947680	–33.85	151.20	3A	1253	49
TAMWORTH AIRPORT AW	957620	–31.07	150.83	3A	676	27
TELFER AERO	943190	–21.72	122.22	1B	302	12
TENNANT CREEK MET O	942380	–19.63	134.18	1B	446	18
TEWANTIN RSL PARK	945700	–26.38	153.03	2A	1678	66
THREDBO (CRACKENBACK)	959090	–36.50	148.28	7	975	38
TINDAL RAAF	941310	–14.52	132.37	0A	1013	40
TOOWOOMBA AIRPORT	955510	–27.55	151.92	3A	937	37
TOWN OF 1770	943840	–24.15	151.88	2A	1104	43
TOWNSVILLE AERO	942940	–19.25	146.77	1A	1042	41
TROUGHTON ISLAND	941020	–13.75	126.15	0A	955	38
TUGGERANONG ISABELL	949250	–35.42	149.10	4A	733	29

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
TUNNAK FIRE STATION	949600	–42.45	147.47	5A	611	24
ULLADULLA AWS	949380	–35.35	150.48	3A	1254	49
URANDANGIE	943290	–21.60	138.30	1B	314	12
VICTORIA RIVER DOWN	942320	–16.40	131.02	0B	743	29
WAGGA WAGGA AMO	949100	–35.17	147.45	3A	574	23
WALGETT AIRPORT	957150	–30.03	148.12	2B	507	20
WANGARATTA AERO	948890	–36.42	146.30	3A	679	27
WARBURTO POINT	946660	–34.00	137.53	3B	351	14
WARRNAMBOOL AIRPORT	948320	–38.28	142.43	4C	775	30
WARWICK	945550	–28.20	152.10	3A	728	29
WEIPA AERO	941700	–12.68	141.92	0A	1883	74
WILLIAMTOWN RAAF	947760	–32.80	151.83	3A	1144	45
WILLIS ISLAND	942990	–16.30	149.97	1A	1029	41
WILSONS PROMONTORY	948930	–39.12	146.42	3C	1088	43
WINDORAH	944880	–25.42	142.65	2B	269	11
WINTON (POST OFFICE)	943390	–22.38	143.03	1B	397	16
WONTHAGGI COMPOSITE	958810	–38.60	145.58	3A	954	38
WOOMERA AERODROME	946590	–31.15	136.82	3B	184	7
WYNDHAM	942140	–15.48	128.12	0B	759	30
WYNYARD AIRPORT	959570	–41.00	145.73	4C	960	38
YEPPOON AWS	943730	–23.13	150.75	2A	1220	48
YOUNG AIRPORT	947120	–34.25	148.25	3A	668	26
YULARA AERO	944620	–25.20	130.98	2B	333	13
Austria (AUT)						
AIGEN IM ENNSTAL	111570	47.53	14.13	6A	1300	51
ALLENTSTEIG	110190	48.68	15.37	5A	629	25
ALPINZENTRUM RUDOLF	111380	47.13	12.63	7	1130	44
AMSTETTEN	110180	48.10	14.90	5A	989	39
ARRIACH	112750	46.73	13.85	6A	1322	52
BAD RADKERSBURG	112480	46.68	15.98	5A	943	37
BISCHOFSHOFEN	111410	47.40	13.22	5A	1314	52
BREGENZ	111010	47.50	9.75	5A	1784	70
BRENNER	111280	47.00	11.52	6A	933	37
DELLACH IM DRAUTAL	112700	46.73	13.08	5A	1073	42
DORNBIRN	113020	47.43	9.73	5A	1393	55
EISENSTADT	111900	47.85	16.53	5A	610	24
FELDKIRCH	111050	47.27	9.62	5A	1393	55
FEUERKOGEL	111550	47.82	13.72	7	1361	54
FREISTADT	110150	48.50	14.50	5A	779	31
GMUNDEN	111540	47.90	13.80	5A	1416	56
GRAZ-THALERHOF-FLUG	112400	47.00	15.43	5A	847	33
GUMPOLDSKIRCHEN	110820	48.03	16.28	5A	604	24
HAHNENKAMM/EHRENBAC	111350	47.42	12.37	7	1242	49
HOHE WAND/HOCHKOGEL	113850	47.82	16.03	6A	745	29
INNSBRUCK-FLUGHAFEN	111200	47.27	11.35	5A	914	36
ISCHGL/IDALPE	113100	46.98	10.32	7	789	31
JAUERLING	110240	48.33	15.33	6A	646	25
KLAGENFURT-FLUGHAFE	112310	46.65	14.33	5A	905	36
KLEINZICKEN	111920	47.20	16.33	5A	741	29
KOETSCHACH-MAUTHEN	112550	46.68	13.00	5A	1427	56
KREMSMUENSTER	110120	48.05	14.13	5A	955	38
KUFSTEIN	111300	47.58	12.17	5A	1440	57
LANDECK	111120	47.13	10.57	5A	913	36

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
LANGENLOIS	110750	48.47	15.70	5A	574	23
LASSNITZHOEHE	112920	47.07	15.58	5A	869	34
LIENZ	112040	46.83	12.82	5A	1207	48
LILIENFELD/TARSCHBE	110780	48.03	15.58	5A	838	33
LINZ/HOERSCHING-FLU	110100	48.23	14.18	5A	955	38
LINZ/STADT	110600	48.30	14.28	5A	840	33
LITSCHAU	110210	48.95	15.03	6A	691	27
LUNZ	111700	47.85	15.07	6A	1229	48
MARIAPFARR	113480	47.15	13.75	6A	980	39
MARIAZELL	111720	47.77	15.32	6A	1066	42
MATTSEE	111520	47.98	13.10	5A	1400	55
MOENICHKIRCHEN	111850	47.52	16.03	6A	855	34
MURAU	112800	47.12	14.18	6A	962	38
NEUSIEDL	111940	47.95	16.85	5A	605	24
OBERTAUERN	111490	47.25	13.57	7	976	38
POYSDORF	110320	48.67	16.63	5A	527	21
PUCHBERG	113820	47.78	15.90	5A	991	39
RAMSAU/DACHSTEIN	113510	47.43	13.63	6A	1349	53
RAX/SEILBAHN-BERGST	111800	47.72	15.78	7	1039	41
REICHENAU/RAX	113800	47.70	15.83	5A	1039	41
RETZ	110220	48.77	15.95	5A	512	20
SALZBURG-FLUGHAFEN	111500	47.80	13.00	5A	1174	46
SCHMITTENHOEHE	113400	47.33	12.73	7	1364	54
SCHOECKL	112410	47.20	15.47	7	917	36
ST. MICHAEL/LEOBEN	111740	47.33	15.00	5A	1027	40
ST. POELTEN	110280	48.18	15.62	5A	690	27
ST. WOLFGANG	113570	47.73	13.45	5A	1465	58
STIFT ZWETTL	110200	48.62	15.20	6A	744	29
TULLN	110300	48.32	16.12	5A	606	24
VILLACH	112130	46.62	13.88	5A	1322	52
VIRGEN	112520	47.00	12.45	6A	921	36
WARTH	113080	47.25	10.18	6A	1500	59
WIEN/CITY	110340	48.20	16.37	4A	604	24
WIEN/HOHE WARTE	110350	48.25	16.37	5A	628	25
WIEN/SCHWECHAT-FLUG	110360	48.12	16.57	5A	558	22
WIENER NEUSTADT	111820	47.83	16.22	5A	745	29
WINDISCHGARSTEN	113550	47.73	14.33	5A	1190	47
ZELL AM SEE	111440	47.33	12.80	5A	1409	55
ZELTWEG	111650	47.20	14.75	6A	847	33
Azerbaijan (AZE)						
LANKARAN	379850	38.73	48.83	4A	1167	46
ZAKATALA	375750	41.67	46.65	4A	975	38
Bahamas (BHS)						
NASSAU AIRPORT NEW	780730	25.05	–77.47	1A	1334	53
SETTLEMENT POINT	994390	26.68	–79.00	1A	1281	50
Bahrain (BHR)						
BAHRAIN (INT. AIRPORT)	411500	26.27	50.65	0B	57	2
Barbados (BRB)						
GRANTLEY ADAMS	789540	13.07	–59.48	0A	1155	45
Belarus (BLR)						
BARANOVICHI	269410	53.12	26.00	6A	610	24
BOBRUISK	269610	53.22	29.18	6A	622	24
BREST	330080	52.12	23.68	5A	601	24

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
GOMEL	330410	52.40	30.95	6A	591	23
GRODNO	268250	53.60	24.05	6A	608	24
KOSTUCKOVICHI	268870	53.35	32.07	6A	585	23
LEPEL	266590	54.88	28.70	6A	672	26
LIDA	268320	53.85	25.32	6A	655	26
LYNTUPY	266450	55.05	26.32	6A	678	27
MINSK	268500	53.93	27.63	6A	673	27
MOGILEV	268630	53.95	30.07	6A	623	25
MOZYR	330360	51.95	29.17	6A	615	24
ORSHA	267630	54.50	30.42	6A	617	24
PINSK	330190	52.12	26.12	6A	575	23
SLUTSK	269510	53.03	27.55	6A	599	24
VERHNEDVINSK	265540	55.82	27.95	6A	614	24
VITEBSK	266660	55.17	30.22	6A	662	26
ZHITCKOVICHI	330270	52.22	27.87	6A	663	26
Belgium (BEL)						
ANTWERPEN/DEURNE	064500	51.20	4.47	4A	792	31
BEAUVECHAIN	064580	50.75	4.77	5A	807	32
BIERSET	064780	50.65	5.45	5A	899	35
BRUXELLES NATIONAL	064510	50.90	4.53	4A	784	31
CHARLEROI/GOSSELIES	064490	50.47	4.45	5A	883	35
CHIEVRES	064320	50.57	3.83	5A	767	30
ELSENBORN	064960	50.47	6.18	6A	1092	43
FLORENNES	064560	50.23	4.65	5A	984	39
GENT/INDUSTRIE-ZONE	064310	51.18	3.82	4A	772	30
KLEINE BROGEL	064790	51.17	5.47	5A	829	33
KOKSIJDE	064000	51.08	2.65	4A	697	27
LIEGE	064324	50.63	5.45	5A	899	35
OOSTENDE (AIRPORT)	064070	51.20	2.87	5A	755	30
OOSTENDE (PIER)	064080	51.23	2.92	4A	755	30
SEMMERZAKE	064280	50.93	3.67	4A	810	32
ST. TRUIDEN (BAFB)	064700	50.80	5.20	5A	823	32
ST-HUBERT	064760	50.03	5.40	5A	998	39
UCCLE	064470	50.80	4.35	4A	829	33
Belize (BLZ)						
BELIZE/PHILLIP GOLD	785830	17.53	–88.30	0A	1944	77
Benin (BEN)						
BOHICON	653380	7.17	2.07	0A	1145	45
COTONOU	653440	6.35	2.38	0A	1297	51
KANDI	653060	11.13	2.93	0A	1011	40
NATITINGOU	653190	10.32	1.38	0A	1242	49
PARAKOU	653300	9.35	2.62	0A	1177	46
SAVE	653350	8.03	2.47	0A	1116	44
Bermuda (BMU)						
BERMUDA INTL	780160	32.37	–64.68	2A	1456	57
Bolivia (BOL)						
COCHABAMBA	852230	–17.42	–66.18	3B	472	19
LA PAZ/ALTO	852010	–16.52	–68.18	5A	535	21
VIRU-VIRU	852440	–17.63	–63.13	1A	1365	54
Bosnia and Herzegovina (BIH)						
BANJA LUKA	132420	44.78	17.22	4A	1056	42
BIHAC	132280	44.82	15.88	4A	1252	49
BJELASNICA	146520	43.72	18.27	7	1155	45

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MOSTAR	133480	43.33	17.78	3A	1632	64
SARAJEVO/BUTMIR	133530	43.82	18.33	5A	993	39
SARAJEVO-BJELAVE	146540	43.87	18.43	5A	921	36
Botswana (BWA)						
SERETSE KHAMA INTER	682400	–24.55	25.92	2B	449	18
Brazil (BRA)						
ANAPOLIS (BRAZ-AFB)	834190	–16.23	–48.97	2A	1584	62
ARACAJU (AEROPORTO)	830950	–10.98	–37.07	0A	1489	59
BELEM (AEROPORTO)	821930	–1.38	–48.48	0A	2958	116
BELO HORIZONTE	835870	–19.93	–43.93	2A	1477	58
BELO HORIZONTE (AERO)	835830	–19.85	–43.95	2A	1477	58
BOA VISTA (AEROPORTO)	820220	2.83	–60.70	0A	1547	61
BRASILIA (AEROPORTO)	833780	–15.87	–47.93	2A	1515	60
CAMPINAS (AEROPORTO)	837210	–23.00	–47.13	2A	1354	53
CAMPO GRANDE (AERO)	836120	–20.47	–54.67	1A	1498	59
CARAVELAS (AEROPORTO)	834970	–17.63	–39.25	1A	1472	58
CUIABA (AEROPORTO)	833620	–15.65	–56.10	0A	1346	53
CURITIBA (AEROPORTO)	838400	–25.52	–49.17	3A	1604	63
EDUARDO GOMES INTL	821110	–3.03	–60.05	0A	2282	90
FERNANDO DE NORONHA	824000	–3.85	–32.42	0A	1029	41
FLORIANOPOLIS (AERO)	838990	–27.67	–48.55	2A	1578	62
FORTALEZA (AEROPORTO)	823980	–3.78	–38.53	0A	1628	64
FOZ DO IGUACU (AERO)	838270	–25.52	–54.58	2A	1788	70
GALEAO	837460	–22.82	–43.25	1A	1397	55
GOIANIA (AEROPORTO)	834240	–16.63	–49.22	1A	1628	64
GUARULHOS	837753	–23.43	–46.47	2A	1472	58
LONDRINA (AEROPORTO)	837680	–23.33	–51.13	2A	1551	61
MACAPA	820980	0.03	–51.05	0A	2733	108
MACEIO (AEROPORTO)	829930	–9.52	–35.78	1A	1627	64
MANAUS (AEROPORTO)	823320	–3.15	–59.98	0A	2282	90
NATAL AEROPORTO	825990	–5.92	–35.25	0A	1306	51
PORTO ALEGRE (AERO)	839710	–30.00	–51.18	2A	1353	53
PORTO VELHO (AERO)	828240	–8.77	–63.92	0A	2230	88
RECIFE (AEROPORTO)	828990	–8.07	–34.85	0A	2353	93
RIO BRANCO	829170	–10.00	–67.80	1A	1451	57
RIO DE JANEIRO (AERO)	837550	–22.90	–43.17	1A	1154	45
SALVADOR (AEROPORTO)	832480	–12.90	–38.33	0A	1804	71
SANTAREM-AEROPORTO	822440	–2.43	–54.72	0A	2312	91
SAO LUIZ (AEROPORTO)	822810	–2.60	–44.23	0A	1982	78
SAO PAULO (AEROPORTO)	837800	–23.62	–46.65	2A	1511	59
TERESINA (AEROPORTO)	825790	–5.05	–42.82	0A	1392	55
UBERABA	835760	–19.78	–47.97	2A	1631	64
VITORIA (AEROPORTO)	836490	–20.27	–40.28	1A	1289	51
British Indian Ocean Territory (IOT)						
DIEGO GARCIA NAF	619670	–7.30	72.40	0A	2026	80
Brunei (BRN)						
BRUNEI AIRPORT	963150	4.93	114.93	0A	2922	115
Bulgaria (BGR)						
BOTEV VRAH (TOP/SOMMET)	156270	42.67	24.83	7	884	35
BURGAS	156550	42.48	27.48	4A	588	23
CHERNI VRAH (TOP/SOMMET)	156130	42.58	23.27	7	775	30
CHIRPAN	156350	42.20	25.33	4A	589	23
ELHOVO	156420	42.18	26.57	4A	541	21

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
IVAILO	156280	42.22	24.33	4A	515	20
KALIAKPA	155620	43.37	28.47	4A	422	17
KURDJALI	157300	41.65	25.37	4A	633	25
KUSTENDIL	156010	42.27	22.77	4A	668	26
LOM	155110	43.82	23.25	4A	553	22
LOVETCH	155250	43.13	24.72	4A	663	26
MOURGASH	156000	42.83	23.67	7	714	28
MUSSALA (TOP/SOMMET)	156150	42.18	23.58	8	971	38
PLEVEN	155260	43.42	24.60	4A	584	23
PLOVDIV	156250	42.13	24.75	4A	518	20
RAZGRAD	155490	43.52	26.53	4A	582	23
ROUSSE	155350	43.85	25.95	4A	583	23
SANDANSKI	157120	41.52	23.27	4A	539	21
SHABLA	155610	43.53	28.53	4A	408	16
SHUMEN	155440	43.27	26.93	4A	559	22
SLIVEN	156400	42.67	26.32	4A	559	22
SOFIA (OBSERV.)	156140	42.65	23.38	5A	612	24
SVICHTOV	155330	43.62	25.35	4A	534	21
SVILENGRAD	157410	41.77	26.20	4A	577	23
VARNA	155520	43.20	27.92	4A	490	19
VELIKO TARNOVO	155300	43.08	25.65	4A	655	26
VIDIN	155020	43.82	22.88	4A	544	21
VRATZA	155050	43.20	23.53	4A	754	30
Burkina Faso (BFA)						
BOBO-DIOULASSO	655100	11.17	–4.32	0A	1033	41
BOROMO	655160	11.75	–2.93	0A	883	35
DORI	655010	14.03	–0.03	0B	451	18
OUAGADOUGOU	655030	12.35	–1.52	0B	768	30
OUAHIGOUYA	655020	13.57	–2.42	0B	618	24
Cape Verde (CPV)						
SAL	085940	16.73	–22.95	1B	219	9
Chad (TCD)						
NDJAMENA	647000	12.13	15.03	0B	507	20
Chile (CHL)						
ANTOFAGASTA	854420	–23.43	–70.45	3C	23	1
ARICA	854060	–18.47	–70.17	3B	24	1
BALMACEDA	858740	–45.92	–71.70	6A	600	24
CONCEPCION	856820	–36.77	–73.07	3C	1286	51
FARO EVANGELISTAS	859300	–52.40	–75.10	6A	1267	50
IQUIQUE	854180	–20.53	–70.18	3B	6	0
ISLA DIEGO RAMIREZ	859720	–56.50	–68.67	6A	1088	43
LA SERENA	854880	–29.92	–71.20	3C	80	3
PUDAHUEL	855740	–33.38	–70.78	3C	324	13
PUERTO MONTT	857990	–41.43	–73.10	4A	1742	69
PUNTA ARENAS	859340	–53.00	–70.97	6A	386	15
TEMUCO	857430	–38.75	–72.63	4C	1475	58
China (CHN)						
ABAG QI	531920	44.02	114.95	7	242	10
AIHUI	504680	50.25	127.45	7	559	22
AKQI	517110	40.93	78.45	6B	187	7
ALAR	517300	40.50	81.05	5B	44	2
ALTAY	510760	47.73	88.08	7	188	7
ANDA	508540	46.38	125.32	7	429	17

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
ANDIR	518480	37.93	83.65	5B	21	1
ANKANG	572450	32.72	109.03	3A	834	33
ANQING	584240	30.53	117.05	3A	1370	54
ANYANG	538980	36.05	114.40	4B	569	22
ARXAN	507270	47.17	119.93	8	451	18
BACHU	517160	39.80	78.57	4B	52	2
BAILING-MIAO	533520	41.70	110.43	7	249	10
BAINGOIN	552790	31.37	90.02	7	304	12
BAISE	592110	23.90	106.60	2A	1090	43
BALGUNTAY	514670	42.67	86.33	6B	193	8
BAODING	546020	38.85	115.57	4B	536	21
BAOJI	570160	34.35	107.13	4A	690	27
BAOQING	508880	46.32	132.18	7	521	21
BAOSHAN	567480	25.12	99.18	3A	961	38
BARKAM	561720	31.90	102.23	5A	770	30
BATANG	562470	30.00	99.10	4B	473	19
BAYAN MOD	524950	40.75	104.50	6B	89	3
BAYANBULAK	515420	43.03	84.15	8	265	10
BAYTIK SHAN	512880	45.37	90.53	7	165	6
BEIHAI	596440	21.48	109.10	2A	1717	68
BEIJING	545110	39.93	116.28	4A	553	22
BENGBU	582210	32.95	117.37	3A	904	36
BENXI	543460	41.32	123.78	6A	812	32
BIJIE	577070	27.30	105.23	4A	882	35
BINHAI	545273	39.12	117.33	4A	556	22
BOXIAN	581020	33.88	115.77	4A	802	32
BUGT	506320	48.77	121.92	7	479	19
BUGT	542260	42.33	120.70	6B	420	17
CANGZHOU	546160	38.33	116.83	4A	613	24
CHANG DAO	547510	37.93	120.72	4A	586	23
CHANGBAI	543860	41.35	128.17	7	692	27
CHANGCHUN	541610	43.90	125.22	6A	580	23
CHANGDE	576620	29.05	111.68	3A	1303	51
CHANGLING	540490	44.25	123.97	6A	457	18
CHANGSHA	576870	28.23	112.87	3A	1426	56
CHANGTING	589110	25.85	116.37	3A	1734	68
CHAOYANG	543240	41.55	120.45	5A	478	19
CHENGDE	544230	40.98	117.95	5A	521	21
CHENGDU	562940	30.67	104.02	3A	921	36
CHENGSHANTOU	547760	37.40	122.68	4A	751	30
CHENZHOU	579720	25.80	113.03	2A	1487	59
CHIFENG	542180	42.27	118.97	6B	354	14
CHONGQING	575160	29.58	106.47	3A	1101	43
CHUXIONG	567680	25.02	101.52	3A	788	31
DA XIAN	573280	31.20	107.50	3A	1208	48
DACHEN DAO	586660	28.45	121.88	3A	1325	52
DALI	567510	25.70	100.18	3C	1055	42
DALIAN	546620	38.90	121.63	5A	633	25
DANDONG	544970	40.05	124.33	5A	969	38
DANXIAN	598450	19.52	109.58	1A	1803	71
DAOCHENG	563570	29.05	100.30	6A	623	25
DA-QAIDAM	527130	37.85	95.37	7	86	3
DARLAG	560460	33.75	99.65	7	546	22

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
DATONG	534870	40.10	113.33	6B	376	15
DAWU	561670	30.98	101.12	5A	596	23
DEGE	561440	31.80	98.57	5A	613	24
DELINGHA	527370	37.37	97.37	6B	159	6
DENGQEN	561160	31.42	95.60	7	636	25
DEQEN	564440	28.45	98.88	6A	655	26
DEZHOU	547140	37.43	116.32	4A	571	22
DINGHAI	584770	30.03	122.12	3A	1321	52
DINGTAO	549090	35.07	115.57	4A	687	27
DIWOPU	514635	43.90	87.47	6B	258	10
DONGFANG	598380	19.10	108.62	1A	935	37
DONGSHENG	535430	39.83	109.98	6B	393	15
DONGTAI	582510	32.85	120.28	4A	1036	41
DULAN	528360	36.30	98.10	7	201	8
DUNHUA	541860	43.37	128.20	7	634	25
DUNHUANG	524180	40.15	94.68	5B	38	1
DUOLUN	542080	42.18	116.47	7	366	14
DUSHAN	579220	25.83	107.55	3A	1329	52
EJIN QI	522670	41.95	101.07	5B	31	1
EMEI SHAN	563850	29.52	103.33	7	1863	73
ENSHI	574470	30.28	109.47	3A	1470	58
ERENHOT	530680	43.65	112.00	7	136	5
FANGXIAN	572590	32.03	110.77	4A	854	34
FENGJIE	573480	31.02	109.53	3A	1142	45
FENGNING	543080	41.22	116.63	6A	463	18
FEZXZAN	549290	35.25	117.95	4A	863	34
FOGANG	590870	23.87	113.53	2A	2198	87
FUDING	587540	27.33	120.20	3A	1677	66
FUJIN	507880	47.23	131.98	7	513	20
FUYANG	582030	32.87	115.73	3A	876	34
FUYUN	510870	46.98	89.52	7	167	7
FUZHOU	588470	26.08	119.28	2A	1352	53
GANGCA	527540	37.33	100.13	7	380	15
GANYU	580400	34.83	119.13	4A	941	37
GANZHOU	579930	25.87	115.00	2A	1426	56
GAOYAO	592780	23.05	112.47	2A	1645	65
GARZE	561460	31.62	100.00	6A	635	25
GENGMA	569460	23.55	99.40	2A	1362	54
GOLMUD	528180	36.42	94.90	6B	41	2
GUAIZIHU	523780	41.37	102.37	5B	34	1
GUANGCHANG	588130	26.85	116.33	2A	1719	68
GUANGHUA	572650	32.38	111.67	3A	846	33
GUANGNAN	590070	24.07	105.07	3A	1037	41
GUANGZHOU	592870	23.17	113.33	2A	1726	68
GUILIN	579570	25.33	110.30	2A	1830	72
GUIPING	592540	23.40	110.08	2A	1670	66
GUIYANG	578160	26.58	106.73	3A	1166	46
GUSHI	582080	32.17	115.67	3A	1081	43
HAIKOU	597580	20.03	110.35	1A	1662	65
HAILAR	505270	49.22	119.75	7	346	14
HAILS	532310	41.45	106.38	6B	110	4
HAILUN	507560	47.43	126.97	7	551	22
HAIYANG	548630	36.77	121.17	4A	778	31

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
HAIYANG DAO	545870	39.05	123.22	4A	788	31
HALIUT	533360	41.57	108.52	6B	200	8
HAMI	522030	42.82	93.52	5B	36	1
HANGZHOU	584570	30.23	120.17	3A	1380	54
HANZHONG	571270	33.07	107.03	4A	900	35
HARBIN	509530	45.75	126.77	7	527	21
HECHI	590230	24.70	108.05	2A	1471	58
HEFEI	583210	31.87	117.23	3A	984	39
HENAN	560650	34.73	101.60	7	597	24
HEQU	535640	39.38	111.15	5B	418	16
HEYUAN	592930	23.80	114.73	2A	1922	76
HEZE/CAOZHOU	549060	35.25	115.43	4A	646	25
HEZUO	560800	35.00	102.90	7	549	22
HOBOKSAR	511560	46.78	85.72	7	136	5
HOHHOT	534630	40.82	111.68	6B	400	16
HONG KONG INTERNATI	450070	22.32	113.92	1A	1894	75
HONG KONG OBSERVATO	450050	22.30	114.17	2A	2225	88
HOTAN	518280	37.13	79.93	4B	35	1
HUA SHAN	570460	34.48	110.08	6A	875	34
HUADE	533910	41.90	114.00	7	319	13
HUADIAN	542730	42.98	126.75	7	743	29
HUAILAI	544050	40.40	115.50	5B	387	15
HUAJIALING	529960	35.38	105.00	7	513	20
HUANG SHAN	584370	30.13	118.15	5A	2317	91
HUILI	566710	26.65	102.25	3C	1134	45
HUIMIN	547250	37.50	117.53	4A	585	23
HUIZE	566840	26.42	103.28	3A	776	31
HULIN	509830	45.77	132.97	7	556	22
HUMA	503530	51.72	126.65	7	467	18
HUOSHAN	583140	31.40	116.33	3A	1339	53
JARTAI	535020	39.78	105.75	5B	103	4
JARUD QI	540260	44.57	120.90	6B	386	15
JIAN	543770	41.10	126.15	2A	942	37
JIAN	577990	27.12	114.97	6A	1477	58
JIANGCHENG	569770	22.62	101.82	2A	2229	88
JIANGLING	574760	30.33	112.18	3A	1083	43
JIEXIU	538630	37.03	111.92	5B	498	20
JINAN	548230	36.60	117.05	4A	733	29
JINGDEZHEN	585270	29.30	117.20	3A	1694	67
JINGHE	513340	44.62	82.90	6B	96	4
JINGHONG	569590	22.00	100.78	1A	1173	46
JINING	534800	41.03	113.07	7	361	14
JINZHOU	543370	41.13	121.12	5A	581	23
JIULONG	564620	29.00	101.50	5A	907	36
JIUQUAN	525330	39.77	98.48	5B	85	3
JIUXIAN SHAN	589310	25.72	118.10	4A	1720	68
JIXI	509780	45.28	130.95	7	546	21
JURH	532760	42.40	112.90	6B	213	8
KABA HE	510530	48.05	86.35	6B	176	7
KANGDING	563740	30.05	101.97	5A	801	32
KARAMAY	512430	45.60	84.85	6B	104	4
KASHI	517090	39.47	75.98	4B	62	2
KESHAN	506580	48.05	125.88	7	486	19

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KORLA	516560	41.75	86.13	5B	53	2
KUANDIAN	544930	40.72	124.78	6A	1100	43
KUNMING	567780	25.02	102.68	3C	1004	40
KUOCANG SHAN	586530	28.82	120.92	5A	2097	83
KUQA	516440	41.72	82.95	5B	62	2
LANCANG	569540	22.57	99.93	2A	1639	65
LANGZHONG	573060	31.58	105.97	3A	1039	41
LANZHOU	528890	36.05	103.88	5B	317	12
LENGHU	526020	38.83	93.38	7	17	1
LETING	545390	39.43	118.90	5A	638	25
LHASA	555910	29.67	91.13	5B	440	17
LHUNZE	556960	28.42	92.47	6B	269	11
LIAN XIAN	590720	24.78	112.38	2A	1578	62
LIANGPING	574260	30.68	107.80	3A	1301	51
LIANPING	590960	24.37	114.48	2A	1781	70
LIJING	566510	26.83	100.47	3C	954	38
LINCANG	569510	23.95	100.22	3A	1187	47
LINDONG	540270	43.98	119.40	6B	370	15
LINGLING	578660	26.23	111.62	3A	1352	53
LINGXIAN	547150	37.33	116.57	4B	522	21
LINHAI	586600	28.85	121.13	3A	1778	70
LINHE	535130	40.77	107.40	5B	135	5
LINJIANG	543740	41.72	126.92	6A	837	33
LINXI	541150	43.60	118.07	6B	368	14
LINYI	549380	35.05	118.35	4A	870	34
LISHI	537640	37.50	111.10	5A	500	20
LISHUI	586460	28.45	119.92	3A	1371	54
LITANG	562570	30.00	100.27	7	712	28
LIUZHOU	590460	24.35	109.40	2A	1388	55
LIYANG	583450	31.43	119.48	3A	1144	45
LONGKOU	547530	37.62	120.32	4A	618	24
LONGYAN	589270	25.10	117.02	2A	1713	67
LONGZHOU	594170	22.37	106.75	2A	1380	54
LU SHAN	585060	29.58	115.98	4A	1965	77
LUODIAN	579160	25.43	106.77	2A	1150	45
LUSHI	570670	34.05	111.03	4A	636	25
LUSI	582650	32.07	121.60	3A	1037	41
LUXI	568860	24.53	103.77	3A	957	38
LUZHOU	576020	28.88	105.43	3A	1152	45
MACHENG	573990	31.18	114.97	3A	1216	48
MADOI	560330	34.92	98.22	8	309	12
MANDAL	531490	42.53	110.13	6B	168	7
MANGNAI	518860	38.25	90.85	7	49	2
MAZONG SHAN	523230	41.80	97.03	7	76	3
MEI XIAN	591170	24.30	116.12	2A	1509	59
MENGDING	569450	23.57	99.08	2A	1519	60
MENGJIN	570710	34.82	112.43	4A	603	24
MENGLA	569690	21.50	101.58	2A	1522	60
MENGSHAN	590580	24.20	110.52	2A	1691	67
MENGZI	569850	23.38	103.38	2A	855	34
MIANYANG	561960	31.45	104.73	3A	925	36
MINFENG	518390	37.07	82.72	5B	41	2
MINQIN	526810	38.63	103.08	5B	111	4

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
MOHE	501360	52.13	122.52	8	414	16
MUDANJIANG	540940	44.57	129.60	7	535	21
NAGQU	552990	31.48	92.07	7	424	17
NANCHANG	586060	28.60	115.92	3A	1523	60
NANCHENG	587150	27.58	116.65	3A	1649	65
NANCHONG	574110	30.80	106.08	3A	1026	40
NANJING	582380	32.00	118.80	3A	1031	41
NANNING	594310	22.82	108.35	2A	1294	51
NANPING	588340	26.63	118.00	2A	1655	65
NANYANG	571780	33.03	112.58	4A	788	31
NANYUE	577760	27.30	112.70	4A	2004	79
NAPO	592090	23.30	105.95	2A	1407	55
NARAN BULAG	530830	44.62	114.15	7	222	9
NEIJIANG	575040	29.58	105.05	3A	1058	42
NENJIANG	505570	49.17	125.23	7	481	19
NYINGCHI	563120	29.57	94.47	5A	660	26
OTOG QI	535290	39.10	107.98	6B	262	10
PAGRI	557730	27.73	89.08	7	415	16
PINGLIANG	539150	35.55	106.67	5A	518	20
PINGTAN	589440	25.52	119.78	2A	1192	47
PINGWU	561930	32.42	104.52	3A	837	33
PISHAN	518180	37.62	78.28	4B	50	2
POTOU	546180	38.08	116.55	4B	554	22
PUCHENG	587310	27.92	118.53	3A	1687	66
QAMDO	561370	31.15	97.17	5A	473	19
QIAN GORLOS	509490	45.08	124.87	6A	438	17
QIEMO/QARQAN	518550	38.15	85.55	5B	23	1
QINGDAO	548570	36.07	120.33	4A	730	29
QINGJIANG	581440	33.60	119.03	4A	919	36
QINGLONG	544360	40.40	118.95	5A	715	28
QINGYUAN	542590	42.10	124.95	6A	811	32
QINZHOU	596320	21.95	108.62	2A	2136	84
QIONGHAI	598550	19.23	110.47	1A	1999	79
QIQIHAR	507450	47.38	123.92	7	430	17
QITAI	513790	44.02	89.57	6B	175	7
QIXIAN SHAN	587260	27.95	117.83	4A	2021	80
QU XIAN	586330	28.97	118.87	3A	1630	64
QUMARLEB	560210	34.13	95.78	8	407	16
RIZHAO	549450	35.43	119.53	4A	891	35
RONGJIANG	579320	25.97	108.53	3A	1177	46
RUILI	568380	24.02	97.83	2A	1400	55
RUOERGAI	560790	33.58	102.97	7	661	26
RUOQIANG	517770	39.03	88.17	5B	25	1
SANGZHI	575540	29.40	110.17	3A	1392	55
SANHU DAO	599850	16.53	111.62	0A	1321	52
SANSUI	578320	26.97	108.67	3A	1112	44
SERTAR	561520	32.28	100.33	7	649	26
SHACHE	518110	38.43	77.27	4B	47	2
SHANGCHUAN DAO	596730	21.73	112.77	2A	2159	85
SHANGHAI	583620	31.40	121.47	3A	1130	45
SHANGHAI/HONGQIAO	583670	31.17	121.43	3A	1125	44
SHANGZHI	509680	45.22	127.97	7	666	26
SHANTOU	593160	23.40	116.68	2A	1579	62

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
SHANWEI	595010	22.78	115.37	2A	1806	71
SHAOGUAN	590820	24.80	113.58	2A	1493	59
SHAOWU	587250	27.33	117.47	3A	1793	71
SHAOYANG	577660	27.23	111.47	3A	1303	51
SHENG SHANG	584730	30.72	122.82	3A	1431	56
SHENGSI	584720	30.73	122.45	3A	987	39
SHENGXIAN	585560	29.60	120.82	3A	1282	50
SHENYANG	543420	41.73	123.52	6A	683	27
SHENZHEN	594930	22.55	114.10	2A	1837	72
SHEYANG	581500	33.77	120.25	4A	1030	41
SHIJIAZHUANG	536980	38.03	114.42	4B	528	21
SHIPU	585690	29.20	121.95	3A	1423	56
SHIQUANHE	552280	32.50	80.08	7	67	3
SHISANJIANFANG	514950	43.22	91.73	5B	27	1
SIMAO	569640	22.77	100.98	2A	1513	60
SINAN	577310	27.95	108.25	3A	1123	44
SIPING	541570	43.18	124.33	6A	638	25
SOG XIAN	561060	31.88	93.78	7	569	22
SONGPAN	561820	32.65	103.57	5A	718	28
SUIFENHE	540960	44.38	131.15	7	564	22
SUNWU	505640	49.43	127.35	7	547	22
TACHENG	511330	46.73	83.00	6B	281	11
TAI SHAN	548260	36.25	117.10	6A	1086	43
TAILAI	508440	46.40	123.42	7	391	15
TAISHAN	588530	27.00	120.70	3A	1099	43
TAIYUAN	537720	37.78	112.55	5B	448	18
TANGSHAN	545340	39.67	118.15	4A	635	25
TAOXIAN	543424	41.63	123.48	6A	729	29
TENGCHONG	567390	25.12	98.48	3A	1494	59
TIANJIN	545270	39.10	117.17	4A	559	22
TIANMU SHAN (MTNS)	584450	30.35	119.42	5A	1690	67
TIANSHUI	570060	34.58	105.75	4A	539	21
TIKANLIK	517650	40.63	87.70	5B	37	1
TINGRI	556640	28.63	87.08	7	355	14
TONGCHUAN	539470	35.17	109.05	5A	578	23
TONGDAO	578450	26.17	109.78	3A	1418	56
TONGDE	529570	35.27	100.65	7	427	17
TONGHE	509630	45.97	128.73	7	596	23
TONGLIAO	541350	43.60	122.27	6B	373	15
TRUONG SA	489200	8.65	111.92	0A	1942	76
TULIHE	504340	50.45	121.70	8	457	18
TUOTUOHE	560040	34.22	92.43	8	266	10
TURPAN	515730	42.93	89.20	4B	16	1
ULIASTAI	509150	45.52	116.97	7	249	10
WANYUAN	572370	32.07	108.03	3A	1236	49
WEICHANG	543110	41.93	117.75	6A	422	17
WEIFANG	548430	36.77	119.18	4A	621	24
WEINING	566910	26.87	104.28	4A	928	37
WENZHOU	586590	28.02	120.67	3A	1698	67
WU LU MU QI	514630	43.80	87.65	6B	257	10
WUDAOLIANG	529080	35.22	93.08	8	264	10
WUDU	560960	33.40	104.92	3B	485	19
WUGANG	578530	26.73	110.63	3A	1381	54

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
WUHAN	574940	30.62	114.13	3A	1218	48
WUHU	583380	31.33	118.35	3A	1161	46
WUSHAOLING	527870	37.20	102.87	7	390	15
WUTAI SHAN	535880	38.95	113.52	8	815	32
WUYISHAN	587300	27.77	118.03	3A	1905	75
WUZHOU	592650	23.48	111.30	2A	1487	59
XAINZA	554720	30.95	88.63	7	285	11
XI UJIMQIN QI	540120	44.58	117.60	7	333	13
XIAMEN	591340	24.48	118.08	2A	1185	47
XIAN	570360	34.30	108.93	4B	562	22
XIAOERGOU	505480	49.20	123.72	7	490	19
XICHANG	565710	27.90	102.27	3A	968	38
XIFENGZHEN	539230	35.73	107.63	5A	569	22
XIGAZE	555780	29.25	88.88	6C	432	17
XIHUA	571930	33.78	114.52	4A	745	29
XILIN HOT	541020	43.95	116.12	7	277	11
XIN BARAG YOUQI	506030	48.67	116.82	7	250	10
XINGREN	579020	25.43	105.18	3A	1332	52
XINGTAI	537980	37.07	114.50	4B	527	21
XINING	528660	36.62	101.77	6B	371	15
XINXIAN	548080	36.23	115.67	4A	579	23
XINYANG	572970	32.13	114.05	3A	1115	44
XINYI	594560	22.35	110.93	2A	1781	70
XISHA DAO	599810	16.83	112.33	0A	1496	59
XIUSHUI	575980	29.03	114.58	3A	1538	61
XUNWU	591020	24.95	115.65	2A	1651	65
XUZHOU	580270	34.28	117.15	4A	828	33
YAAN	562870	29.98	103.00	3A	1724	68
YAN AN	538450	36.60	109.50	5A	561	22
YANCHI	537230	37.80	107.38	5B	278	11
YANGCHENG	539750	35.48	112.40	4A	616	24
YANGJIANG	596630	21.87	111.97	2A	2276	90
YANJI	542920	42.87	129.50	6A	514	20
YANZHOU	549160	35.57	116.85	4A	689	27
YAXIAN	599480	18.23	109.52	0A	1248	49
YIBIN	564920	28.80	104.60	3A	1147	45
YICHANG	574610	30.70	111.30	3A	1178	46
YICHUN	507740	47.72	128.90	7	643	25
YICHUN	577930	27.80	114.38	3A	1602	63
YINCHUAN	536140	38.47	106.20	5B	196	8
YINGKOU	544710	40.67	122.20	5A	675	27
YINING	514310	43.95	81.33	5B	262	10
YIWU	521180	43.27	94.70	7	90	4
YIYUAN	548360	36.18	118.15	4A	701	28
YONGAN	589210	25.97	117.35	2A	1566	62
YOUYANG	576330	28.83	108.77	3A	1360	54
YU XIAN	535930	39.83	114.57	6B	408	16
YUANJIANG	569660	23.60	101.98	1A	782	31
YUANLING	576550	28.47	110.40	3A	1422	56
YUANMOU	567630	25.73	101.87	2B	619	24
YUANPING	536730	38.75	112.70	5B	424	17
YUEYANG	575840	29.38	113.08	3A	1264	50
YULIN	536460	38.23	109.70	5B	402	16

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
YUMENZHEN	524360	40.27	97.03	6B	59	2
YUNCHENG	539590	35.05	111.05	4B	545	21
YUSHE	537870	37.07	112.98	5A	587	23
YUSHU	560290	33.02	97.02	7	487	19
YUTIAN/KERIYA	519310	36.87	81.70	5B	50	2
ZADOI	560180	32.90	95.30	7	531	21
ZAOYANG	572790	32.15	112.67	3A	862	34
ZHANG PING	589260	25.30	117.40	2A	1537	61
ZHANGJIAKOU	544010	40.78	114.88	5B	399	16
ZHANGWU	542360	42.42	122.53	6A	512	20
ZHANGYE	526520	38.93	100.43	5B	128	5
ZHANJIANG	596580	21.22	110.40	1A	1634	64
ZHANYI	567860	25.58	103.83	3C	830	33
ZHAOTONG	565860	27.33	103.75	4A	725	29
ZHENGZHOU	570830	34.72	113.65	4A	641	25
ZHIJIANG	577450	27.45	109.68	3A	1239	49
ZHONGNING	537050	37.48	105.68	5B	216	9
ZHONGXIANG	573780	31.17	112.57	3A	962	38
ZHUMADIAN	572900	33.00	114.02	4A	978	38
ZUNYI	577130	27.70	106.88	3A	1067	42
Christmas Island (CRX)						
CHRISTMAS ISLAND AE	969950	–10.45	105.68	1A	1848	73
Cocos (Keeling) Islands (CCK)						
COCOS ISLAND AERO	969960	–12.18	96.83	0A	1865	73
Colombia (COL)						
BARRANQUILLA/ERNEST	800280	10.88	–74.78	0A	824	32
BOGOTA/ELDORADO	802220	4.70	–74.13	3A	900	35
CALI/ALFONSO BONILL	802590	3.55	–76.38	1A	967	38
CARTAGENA/RAFAEL NU	800220	10.45	–75.52	0A	1055	42
RIONEGRO/J.M.CORDOV	801120	6.13	–75.43	3A	1934	76
Congo (COG)						
BRAZZAVILLE/MAYA-M	644500	–4.25	15.25	1A	1375	54
Cook Islands (COK)						
AMURI/AITUTAKI ISL	918300	–18.83	–159.77	1A	1964	77
MANGAIA ISLAND	918470	–21.92	–157.95	1A	1969	78
MAUKE ISLAND	918400	–20.13	–157.35	1A	1653	65
PENRHYN ISLAND	918000	–9.02	–158.07	0A	1573	62
PUKAPUKA	918110	–10.88	–165.82	0A	2788	110
RAROTONGA	918430	–21.20	–159.82	1A	2176	86
Costa Rica (CRI)						
JUAN SANTAMARIA INT	787620	9.98	–84.22	2A	1946	77
Côte D'Ivoire (CIV)						
ABIDJAN	655780	5.25	–3.93	0A	1886	74
Croatia (HRV)						
DARUVAR	142580	45.60	17.23	4A	890	35
DUBROVNIK-CILIPI	134520	42.57	18.27	3A	1857	73
GOSPIC	143300	44.55	15.37	5A	1400	55
PULA AERODROME	143070	44.90	13.92	4A	907	36
SPLIT/MARJAN	144450	43.52	16.43	3A	829	33
SPLIT/RESNIK	144440	43.53	16.30	3A	970	38
ZADAR/ZEMUNIK	144310	44.10	15.35	3A	928	37
ZAGREB/MAKSIMIR	142400	45.82	16.03	4A	1001	39
ZAGREB/PLESO	142410	45.73	16.07	4A	873	34

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Cuba (CUB)						
AEROPUERTO JOSE MAR	782240	22.98	–82.40	1A	1536	60
CAMAGUEY AEROPUERTO	782550	21.42	–77.85	1A	1386	55
GUANTANAMO BAY NAS	783670	19.90	–75.22	0B	567	22
SANTIAGO DE CUBA	782640	19.97	–75.85	1A	1124	44
VARADERO/MT	782290	23.02	–81.43	1A	1428	56
Curaçao (CUW)						
HATO ARPT (CIV/MIL)	789880	12.20	–68.97	0B	551	22
Cyprus (CYP)						
AKROTIRI	176010	34.58	32.98	3A	591	23
LARNACA AIRPORT	176090	34.88	33.63	3B	330	13
PAPHOS AIRPORT	176000	34.72	32.48	3A	480	19
Czech Republic (CZE)						
BRNO/TURANY	117230	49.15	16.70	5A	497	20
CASLAV	116240	49.93	15.38	5A	578	23
CERVENA	117660	49.77	17.55	6A	685	27
CESKE BUDEJOVICE	115410	48.95	14.43	5A	648	26
CHEB	114060	50.08	12.40	5A	564	22
CHURANOV	114570	49.07	13.62	6A	983	39
DOKSANY	115090	50.47	14.17	5A	496	20
DUKOVANY	116930	49.10	16.13	5A	505	20
HOLESOV	117740	49.32	17.57	5A	649	26
HRADEC KRALOVE	116480	50.25	15.85	5A	609	24
KARLOVY VARY	114140	50.20	12.92	6A	641	25
KOCELOVICE	114870	49.47	13.83	5A	611	24
KOSTELNI MYSLOVA	116360	49.18	15.47	6A	639	25
KRESIN-KRAMOLIN	116280	49.58	15.08	5A	650	26
KUCHAROVICE	116980	48.88	16.08	5A	492	19
LIBEREC	116030	50.77	15.02	5A	917	36
LUKA	117100	49.65	16.95	5A	617	24
LYSA HORA	117870	49.55	18.45	7	1004	40
MARIANSKE LAZNE	114180	49.92	12.72	6A	706	28
MILESOVKA	114640	50.55	13.93	6A	686	27
NAMEST NAD OSLAV	116920	49.17	16.12	5A	505	20
OSTRAVA/MOSNOV	117820	49.68	18.12	5A	864	34
PARDUBICE	116520	50.02	15.73	5A	584	23
PEC POD SNEZKOU	116430	50.67	15.75	6A	897	35
PLZEN LINE	114480	49.68	13.27	5A	565	22
PRADED MOUNTAIN	117350	50.07	17.23	7	946	37
PRAHA/RUZYNE	115180	50.10	14.25	5A	482	19
PRAHA-KBELY	115670	50.12	14.53	5A	548	22
PRAHA-LIBUS	115200	50.02	14.45	5A	497	20
PREROV	117480	49.42	17.40	5A	605	24
PRIBYSLAV	116590	49.58	15.77	6A	701	28
PRIMDA	114230	49.67	12.67	6A	814	32
SVRATOUCH	116830	49.73	16.03	6A	722	28
TEMELIN	115380	49.20	14.33	5A	600	24
TUSIMICE	114380	50.38	13.33	5A	650	26
USTI NAD LABEM	115020	50.68	14.03	5A	603	24
USTI NAD ORLICI	116790	49.98	16.43	5A	734	29
Denmark (DNK)						
AALBORG	060300	57.10	9.85	5A	607	24
BILLUND	061040	55.73	9.17	5A	888	35

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BLAAVANDSHUK	060810	55.55	8.08	5A	792	31
CHRISTIANSO (LGT-H)	061910	55.32	15.18	5A	608	24
DROGDEN	061830	55.53	12.72	5A	602	24
ESBJERG	060800	55.53	8.57	5A	843	33
FORNAES (CAPE)	060710	56.45	10.97	5A	585	23
FREDERIKSHAVN	060430	57.40	10.52	5A	674	27
GNIBEN	061690	56.02	11.28	5A	550	22
HAMMER ODDE	061930	55.30	14.78	5A	538	21
HOLBAEK	061560	55.73	11.60	5A	601	24
HVIDE SANDE	060580	56.00	8.13	5A	788	31
KARUP	060600	56.30	9.12	5A	767	30
KEGNAES	061190	54.85	9.98	5A	706	28
KOEBENHAVN/KASTRUP	061800	55.62	12.65	5A	602	24
LANGOE	061380	54.82	11.00	5A	585	23
MARIBO	061430	54.70	11.45	5A	615	24
MOEN	061790	54.95	12.53	5A	763	30
NAKKEHOVED	061680	56.12	12.35	5A	626	25
ODENSE/BELDRINGE	061200	55.48	10.33	5A	632	25
OMOE	061510	55.17	11.13	5A	574	23
ROEMOE/JUVRE	060960	55.18	8.57	5A	801	32
ROENNE	061900	55.07	14.75	5A	577	23
ROESNAES	061590	55.75	10.87	5A	552	22
ROSKILDE/TUNE	061700	55.58	12.13	5A	606	24
SAEDENSTRAND	060890	55.50	8.40	5A	782	31
SKAGEN	060410	57.73	10.63	5A	640	25
SKRYDSTRUP	061100	55.23	9.27	5A	828	33
THYBOROEN	060520	56.70	8.22	5A	811	32
TIRSTRUP	060700	56.32	10.63	5A	627	25
VAERLOESE	061600	55.77	12.33	5A	642	25
Dominican Republic (DOM)						
LAS AMERICAS	784850	18.43	–69.67	1A	1198	47
SANTO DOMINGO	784860	18.43	–69.88	0A	1338	53
Ecuador (ECU)						
GUAYAQUIL AEROPUERT	842030	–2.15	–79.88	1A	866	34
MANTA	841170	–0.95	–80.68	1B	404	16
QUITO AEROPUERTO	840710	–0.13	–78.48	3A	1083	43
Egypt (EGY)						
ALEXANDRIA/NOUZHA	623180	31.20	29.95	2B	182	7
ASSWAN	624140	23.97	32.78	0B	1	0
ASYUT	623930	27.05	31.02	2B	6	0
BALTIM	623250	31.55	31.10	2B	180	7
CAIRO AIRPORT	623660	30.13	31.40	2B	23	1
DAKHLA	624320	25.48	29.00	1B	1	0
EL ARISH	623370	31.08	33.82	2B	135	5
EL TOR	624590	28.23	33.62	2B	7	0
HURGUADA	624630	27.15	33.72	1B	6	0
ISMAILIA	624400	30.60	32.25	2B	30	1
KHARGA	624350	25.45	30.53	1B	1	0
KOSSEIR	624650	26.13	34.15	1B	4	0
LUXOR	624050	25.67	32.70	1B	2	0
MERSA MATRUH	623060	31.33	27.22	2B	123	5
MINYA	623870	28.08	30.73	2B	3	0
PORT SAID	623330	31.27	32.30	2B	67	3

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
PORT SAID/EL GAMIL	623320	31.28	32.23	2B	67	3
SIWA	624170	29.20	25.32	2B	12	0
Estonia (EST)						
KUNDA	260450	59.52	26.53	6A	564	22
KURESSAARE	262150	58.23	22.50	6A	621	24
NARVA	260580	59.37	28.12	6A	640	25
PJARNU	262310	58.37	24.50	6A	657	26
RISTNA	261150	58.92	22.07	6A	880	35
TALLINN	260380	59.47	24.82	6A	654	26
TARTU	262420	58.30	26.73	6A	586	23
TURI	261350	58.82	25.42	6A	717	28
VALKE-MAARJA	261410	59.13	26.23	6A	658	26
Falkland Islands (Malvinas) (FLK)						
MOUNT PLEASANT AIRP	888890	–51.82	–58.45	6A	601	24
Faroe Islands (FRO)						
AKRABERG	060090	61.40	–6.67	6A	1606	63
TORSHAVN	060110	62.02	–6.77	6A	1411	56
Fiji (FJI)						
LAKEBA AWS	916910	–18.23	–178.80	1A	1482	58
MATUKU AWS	916970	–19.13	179.75	1A	1639	65
NADI AIRPORT	916800	–17.75	177.45	1A	1850	73
NAUSORI	916830	–18.05	178.57	1A	2866	113
ONO-I-LAU AWS	916990	–20.67	–178.72	1A	1740	69
ROTUMA	916500	–12.50	177.05	0A	3504	138
UDU POINT AWS	916520	–16.13	–179.98	0A	2433	96
VIWA AWS	916700	–17.15	176.90	0A	1763	69
VUNISEA	916930	–19.05	178.17	1A	1712	67
YASAWA-I-RARA AWS	916600	–16.70	177.58	0A	1854	73
Finland (FIN)						
AHTARI	029240	62.53	24.02	7	627	25
BAGASKAR	029840	59.93	24.02	6A	547	22
HALLI	029450	61.85	24.80	7	657	26
HELSINKI-VANTAA	029740	60.32	24.97	6A	658	26
ILOMANTSI	029190	62.68	30.95	7	685	27
ISOSAARI	029880	60.10	25.07	6A	654	26
IVALO	028070	68.62	27.42	7	393	15
JOENSUU	029290	62.67	29.63	7	627	25
JOKIOINEN	029630	60.82	23.50	7	597	23
JOMALA	029710	60.15	19.87	6A	530	21
JYVASKYLA	029350	62.40	25.68	7	636	25
KAJAANI	028970	64.28	27.68	7	559	22
KAUHAVA	029130	63.10	23.03	7	540	21
KEMI	028640	65.78	24.58	7	563	22
KEVO	028050	69.75	27.03	8	416	16
KRUUNUPYY	029030	63.72	23.15	7	553	22
KUMLINGE ISLAND	029900	60.30	20.75	6A	792	31
KUOPIO	029170	63.02	27.80	7	677	27
KUUSAMO	028690	65.97	29.18	7	598	24
KUUSKAJASKARI	029610	61.13	21.37	6A	607	24
LAHTI	029650	60.97	25.63	7	636	25
LAPPEENRANTA	029580	61.05	28.20	7	645	25
MARIEHAMN/ALAND ISL	029700	60.12	19.90	6A	530	21
MASSKAR	029010	63.73	22.58	7	531	21

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MIKKELI	029470	61.73	27.30	7	625	25
MOIKIPAA	029210	62.88	21.10	7	542	21
MUONIO	028230	67.97	23.68	8	531	21
NIINISALO	029420	61.85	22.47	7	628	25
NIVALA	029050	63.92	24.97	7	567	22
NYHAMN	029800	59.97	19.97	6A	715	28
OULU	028750	64.93	25.37	7	442	17
PELLO	028440	66.80	24.00	7	523	21
PORI	029520	61.47	21.80	6A	604	24
PUDASJARVI	028670	65.37	27.02	7	601	24
RANKKI	029760	60.37	26.97	6A	634	25
ROVANIEMI	028450	66.57	25.83	7	535	21
RUSSARO	029820	59.77	22.95	6A	695	27
SALLA KK	028490	66.83	28.68	7	561	22
SAVONLINNA	029480	61.95	28.95	7	611	24
SODANKYLA	028360	67.37	26.65	7	530	21
SUOMUSSALMI	028790	64.90	29.02	7	664	26
TAMPERE/PIRKKALA	029440	61.42	23.58	7	566	22
TURKU	029720	60.52	22.27	6A	723	28
UTO	029810	59.78	21.38	6A	847	33
UTTI	029660	60.90	26.93	7	641	25
VAASA AIRPORT	029110	63.05	21.77	7	506	20
VALASSAARET	029100	63.43	21.07	7	719	28
VIITASAARI	029150	63.08	25.87	7	616	24
France (FRA)						
ABBEVILLE	070050	50.13	1.83	4A	771	30
AGEN	075240	44.18	0.60	4A	755	30
AJACCIO	077610	41.92	8.80	3A	626	25
ALBI	076320	43.92	2.12	4A	882	35
ALENCON	071390	48.43	0.10	4A	736	29
AMBERIEU	074820	45.98	5.33	4A	1181	46
AUCH	076220	43.68	0.60	4A	756	30
AURILLAC	075490	44.88	2.42	5A	1322	52
AUXERRE	072650	47.80	3.55	4A	654	26
BALE-MULHOUSE	072990	47.60	7.52	4A	775	30
BASTIA	077900	42.55	9.48	3A	756	30
BEAUCOUZE	072300	47.48	–0.60	4A	620	24
BEAUVAIS	070550	49.47	2.12	4A	730	29
BELFORT	072950	47.63	6.88	5A	1316	52
BELLE IIE LE TALUT	072070	47.30	–3.17	4A	705	28
BERGERAC	075300	44.82	0.52	4A	812	32
BESANCON	072880	47.25	5.98	4A	1170	46
BIARRITZ	076020	43.47	–1.53	3A	1824	72
BISCAROSSE	075030	44.43	–1.25	3A	937	37
BORDEAUX MERIGNAC	075100	44.83	–0.68	4A	940	37
BOULOGNE	070020	50.73	1.60	4A	760	30
BOURG ST-MAURICE	074970	45.62	6.77	5A	1258	50
BOURGES	072550	47.07	2.37	4A	734	29
BREHAT ISLAND	071210	48.85	–3.00	4A	752	30
BREST	071100	48.45	–4.42	4A	1152	45
BRIGNOGAN	071070	48.68	–4.33	4A	965	38
BRIVE	074380	45.15	1.47	4A	931	37
CAEN CARPIQUET	070270	49.18	–0.45	4A	776	31

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CALVI	077540	42.53	8.80	3A	672	26
CAP BEAR	077490	42.52	3.13	3A	595	23
CAP CEPET	076610	43.08	5.93	3A	727	29
CAP CORSE	077850	43.00	9.35	3A	705	28
CAP COURONNE	076530	43.33	5.05	3A	514	20
CAP DE LA HEVE	070280	49.50	0.07	4A	796	31
CAP FERRET	075000	44.63	–1.25	3A	904	36
CAP PERTUSATO	077700	41.37	9.17	3A	616	24
CAP POMEGUES	076520	43.27	5.30	3A	566	22
CAPE FERRAT	076950	43.68	7.33	3A	904	36
CAPE SAGRO	077910	42.80	9.48	3A	705	28
CARCASSONNE	076350	43.22	2.32	3A	728	29
CARPENTRAS	075860	44.08	5.05	3A	749	30
CAZAUX	075020	44.53	–1.13	4A	904	36
CHAMBERY/AIX-LES-BA	074910	45.63	5.87	4A	1218	48
CHARLEVILLE	070750	49.78	4.63	5A	1013	40
CHARTRES	071430	48.47	1.50	4A	611	24
CHASSIRON	073140	46.05	–1.42	3A	730	29
CHATEAUROUX/DEOLS	073540	46.85	1.72	4A	774	30
CLERMONT-FERRAND	074600	45.78	3.17	4A	595	23
COGNAC	074120	45.67	–0.32	4A	852	34
DIEPPE	070400	49.93	1.10	4A	854	34
DIJON	072800	47.27	5.08	4A	747	29
DINARD	071250	48.58	–2.07	4A	685	27
DUNKERQUE	070100	51.05	2.33	4A	685	27
EMBRUN	075910	44.57	6.50	5A	844	33
EVREUX/FAUVILLE FAF	070380	49.02	1.22	4A	685	27
FIGARI	077800	41.50	9.10	3A	616	24
GOURDON	075350	44.75	1.40	4A	871	34
GRENOBLE-ST-GEOIRS	074860	45.37	5.33	4A	991	39
GROUIN DE CANCALE	071270	48.72	–1.85	4A	688	27
HYERES	076670	43.10	6.15	3A	745	29
ILE ROUSSE	077530	42.63	8.92	3A	672	26
ISTRES	076470	43.52	4.92	3A	623	25
L IIE D YEU	073000	46.70	–2.33	4A	796	31
LA CHIAPPA	077680	41.60	9.37	3A	746	29
LA ROCHELLE	073150	46.15	–1.15	4A	758	30
LA ROCHE-SUR-YON	073060	46.70	–1.38	4A	856	34
LANGRES	072830	47.85	5.33	5A	849	33
LE BOURGET	071500	48.97	2.43	4A	647	25
LE LUC	076750	43.38	6.38	3A	907	36
LE MANS	072350	47.93	0.20	4A	682	27
LE PUY	074710	45.08	3.77	5A	769	30
LE RAIZET/GUADELOUP	788970	16.27	–61.60	0A	1475	58
LILLE LESQUI	070150	50.57	3.10	4A	698	27
LIMOGES	074340	45.87	1.18	4A	1013	40
LONS-LE-SAUNIER	073900	46.68	5.52	4A	1368	54
LORIENT LAN BIHOUE	072050	47.77	–3.45	4A	867	34
LUXEUIL	072920	47.80	6.38	5A	1155	45
LYON-BRON	074800	45.72	4.93	4A	808	32
LYON-SATOLAS	074810	45.73	5.08	4A	927	37
MACON	073850	46.30	4.80	4A	847	33
MARIGNANE	076500	43.45	5.23	3A	514	20

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MARTIN DE VIVIES (ILE AMST.)	619960	–37.80	77.50	3A	1101	43
MAUPERTUS	070240	49.65	–1.48	4A	845	33
MELUN	071530	48.62	2.68	4A	651	26
METZ/FRESCATY	070900	49.08	6.13	4A	768	30
MEYENHEIM-COLMAR	071970	47.92	7.40	4A	746	29
MILLAU	075580	44.12	3.02	4A	921	36
MONT AIGOUAL	075600	44.12	3.58	6A	1444	57
MONT-DE-MARSAN	076070	43.92	–0.50	4A	945	37
MONTELIMAR	075770	44.58	4.73	4A	930	37
MONTPELLIER	076430	43.58	3.97	3A	869	34
NANCY-ESSEY	071800	48.68	6.22	5A	768	30
NANCY-OCHEY	071810	48.58	5.97	5A	837	33
NANTES	072220	47.15	–1.60	4A	778	31
NEVERS	072600	47.00	3.10	4A	786	31
NICE	076900	43.65	7.20	3A	790	31
NIMES/GARONS (NAVY)	076460	43.75	4.42	3A	714	28
NIMES-COURBESSAC	076450	43.87	4.40	3A	775	31
NIORT	073300	46.32	–0.40	4A	903	36
ORANGE	075790	44.13	4.83	3A	719	28
ORLEANS	072490	47.98	1.78	4A	641	25
OUESSANT	071000	48.48	–5.05	4A	869	34
PARIS-AEROPORT CHAR	071570	49.02	2.53	4A	701	28
PARIS-MONTSOURIS	071560	48.82	2.33	4A	647	25
PARIS-ORLY	071490	48.72	2.38	4A	634	25
PAU	076100	43.38	–0.42	4A	1173	46
PERPIGNAN	077470	42.73	2.87	3A	572	23
POINTE DU RAZ	071030	48.03	–4.73	4A	797	31
POITIERS	073350	46.58	0.30	4A	712	28
PORQUEROLLES	076700	43.00	6.23	3A	681	27
PORT EN BESSIN	070290	49.35	–0.77	4A	796	31
PTE DE LA HAGUE	070200	49.72	–1.93	4A	809	32
PTE DE PENMARCH	072000	47.80	–4.37	4A	875	34
QUIMPER	072010	47.97	–4.17	4A	919	36
REIMS	070700	49.30	4.03	4A	656	26
RENNES	071300	48.07	–1.73	4A	710	28
ROUEN	070370	49.38	1.18	4A	790	31
SAINT GIRONS	076270	43.00	1.10	4A	1163	46
SAINT-DIZIER	071690	48.63	4.90	4A	891	35
SAINT-NAZAIRE-MONTO	072170	47.32	–2.17	4A	735	29
SAINT-QUENTIN	070610	49.82	3.20	5A	696	27
SAINT-YAN	073790	46.42	4.02	4A	884	35
SERGE-FROLOW (ILE TROMELIN)	619760	–15.80	54.50	1A	850	33
SETE	076410	43.40	3.68	3A	650	26
SOCOA	076000	43.40	–1.68	3A	1824	72
SOLENZARA	077650	41.92	9.40	3A	843	33
ST-AUBAN-SUR-DURANC	075880	44.07	6.00	4A	746	29
ST-ETIENNE BOUTHEON	074750	45.53	4.30	4A	765	30
STRASBOURG-ENTZHEIM	071900	48.55	7.63	4A	623	25
TARBES-OSSUN	076210	43.18	0.00	4A	1140	45
TOULON	076600	43.10	5.93	3A	674	27
TOULOUSE BLAGNAC	076300	43.63	1.37	4A	669	26
TOURS	072400	47.45	0.73	4A	674	27
TRAPPES	071450	48.77	2.00	4A	672	26

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
TREMUSON-ST-BRIEUC	071200	48.53	–2.85	4A	764	30
TROYES BARBEREY	071680	48.33	4.02	4A	695	27
VANNES/SENE	072100	47.60	–2.72	4A	840	33
VICHY	073740	46.17	3.40	4A	763	30
VILLACOUBLAY	071470	48.77	2.20	4A	644	25
French Guiana (GUF)						
ROCHAMBEAU	814050	4.83	–52.37	0A	3614	142
French Polynesia (PYF)						
ATUONA	919250	–9.80	–139.03	0A	1311	52
BORA-BORA	919290	–16.43	–151.75	0A	2036	80
HAO	919440	–18.07	–140.95	0A	1428	56
MURUROA	919520	–21.82	–138.80	1A	1610	63
RAPA	919580	–27.62	–144.33	2A	2672	105
RIKITEA	919480	–23.13	–134.97	2A	1783	70
TAHITI-FAAA	919380	–17.55	–149.62	0A	1685	66
TAKAROA	919430	–14.48	–145.03	0A	1529	60
TUBUAI	919540	–23.35	–149.48	2A	1880	74
French Southern Territories (ATF)						
PORT-AUX-FRANCAIS	619980	–49.30	70.20	6A	1132	45
Gabon (GAB)						
LIBREVILLE	645000	0.45	9.42	0A	2769	109
Gambia (GMB)						
BANJUL/YUNDUM	617010	13.20	–16.63	0A	1162	46
Georgia (GEO)						
BATUMI	374840	41.62	41.60	3A	2575	101
KUTAISI	373950	42.27	42.63	3A	1599	63
PASANAURI	374320	42.35	44.70	5A	1507	59
SUHUMI	372600	42.87	41.13	4A	1532	60
TBILISI	375490	41.68	44.95	4A	480	19
Germany (DEU)						
AACHEN	105010	50.78	6.10	5A	789	31
AHLHORN(GAFB)	102180	52.88	8.23	5A	744	29
ANGERMUENDE	102910	53.03	14.00	5A	522	21
ARKONA (CAPE)	090910	54.68	13.43	5A	529	21
ARTERN	104600	51.38	11.30	5A	546	21
AUGSBERG/MULHAUSEN	108520	48.43	10.93	5A	810	32
BERGEN	102380	52.82	9.93	5A	766	30
BERLIN/DAHLEM	103810	52.47	13.30	5A	581	23
BERLIN/SCHONEFELD	093850	52.38	13.52	5A	563	22
BERLIN/TEGEL (FAFB)	103820	52.57	13.32	5A	605	24
BERLIN/TEMPELHOF	103840	52.47	13.40	5A	581	23
BITBURG(US ARMY)	106100	49.95	6.57	5A	774	30
BOIZENBURG (AUT)	102490	53.40	10.68	5A	675	27
BOLTENHAGEN	101610	54.00	11.20	5A	607	24
BRAUNSCHWEIG	103480	52.30	10.45	5A	652	26
BREMEN	102240	53.05	8.80	5A	712	28
BREMERHAVEN	101290	53.53	8.58	5A	796	31
BREMGARTEN(GAFB)	109000	47.90	7.62	4A	941	37
BROCKEN (PEAK)	104530	51.80	10.62	7	1753	69
BRUGGEN (RAF)	104010	51.20	6.13	5A	747	29
BUECHEL	106130	50.17	7.07	5A	749	29
BUECKEBURG	103350	52.28	9.08	5A	732	29
CELLE	103430	52.60	10.02	5A	708	28

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CHEMNITZ	105770	50.80	12.87	5A	781	31
COTTBUS (FLUGPLATZ)	104920	51.77	14.30	5A	567	22
CUXHAVEN	101310	53.87	8.70	5A	835	33
DIEPHOLZ	103210	52.58	8.35	5A	729	29
DOBERLUG/KIRCHHAIN	094900	51.65	13.58	5A	587	23
DRESDEN/KLOTZSCHE	094880	51.13	13.77	5A	648	26
DUSSELDORF	104000	51.28	6.78	4A	844	33
EGGEBEK	100340	54.63	9.35	5A	842	33
EMDEN-FLUGPLATZ	102000	53.38	7.23	5A	785	31
ERFURT/BINDERSLEBN	095540	50.98	10.97	5A	514	20
ESSEN/MULHEIM	104100	51.40	6.97	5A	933	37
FASSBERG	102460	52.92	10.18	5A	753	30
FICHTELBERG MTN	095780	50.43	12.95	7	1136	45
FRANKFURT MAIN ARPT	106370	50.05	8.60	5A	651	26
FREIBURG (CIV/FAFB)	108030	48.00	7.85	4A	962	38
FRITZLAR	104390	51.12	9.28	5A	668	26
FUERSTENFELDBRUCK	108580	48.20	11.27	5A	968	38
FUERSTENZELL	108950	48.55	13.35	5A	955	38
GARDELEGEN (AUT)	103590	52.52	11.40	5A	550	22
GEILENKIRCHEN	105000	50.97	6.05	4A	789	31
GERA/LEUMNITZ	105670	50.88	12.13	5A	620	24
GIESSEN	105320	50.58	8.70	5A	739	29
GLUECKSBURG/MEIERWI	100330	54.83	9.50	5A	763	30
GOERLITZ	104990	51.17	14.95	5A	660	26
GRAFENWOEHR	106870	49.70	11.95	5A	767	30
GREIFSWALD	091840	54.10	13.38	5A	574	23
GUETERSLOH	103200	51.93	8.32	5A	767	30
HAHN	106160	49.95	7.27	5A	727	29
HAMBURG/FUHLSBUTTEL	101470	53.63	10.00	5A	782	31
HANNOVER	103380	52.47	9.70	5A	647	25
HEIDELBERG (USA-AF)	107340	49.40	8.65	4A	796	31
HOF	106850	50.32	11.88	6A	765	30
HOHENPEISSENBERG	109620	47.80	11.02	6A	1190	47
HOHN	100380	54.32	9.53	5A	836	33
HOLZDORF	104760	51.77	13.17	5A	548	22
HOPSTEN	103140	52.33	7.53	5A	758	30
IDAR-OBERSTEIN	106180	49.70	7.33	5A	781	31
ITZEHOE	101420	53.98	9.57	5A	824	32
JEVER	101220	53.53	7.90	5A	810	32
KAHLER ASTEN(MOUNT)	104270	51.18	8.48	6A	1104	43
KALKAR	104040	51.73	6.27	4A	759	30
KARLSRUHE BADEN BAD	107275	48.77	8.07	5A	916	36
KASSEL	104380	51.30	9.45	5A	706	28
KIEL HOLTENAU	100465	54.37	10.13	5A	779	31
KOLN/BONN (CIV/MIL)	105130	50.87	7.17	5A	833	33
KONSTANZ	109290	47.68	9.18	5A	831	33
KUEMMERSBRUCK	107710	49.43	11.90	5A	737	29
LAAGE	101720	53.92	12.28	5A	598	24
LAHR	108050	48.37	7.83	4A	897	35
LANDSBERG	108570	48.07	10.90	5A	942	37
LAUPHEIM	108370	48.22	9.92	5A	849	33
LECHFELD	108560	48.18	10.85	5A	942	37
LECK	100220	54.80	8.95	5A	822	32

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
LEINEFELDE (AUT)	104490	51.40	10.32	5A	689	27
LEIPZIG	104710	51.32	12.42	5A	513	20
LEIPZIG/SCHKEUDITZ	104690	51.42	12.23	5A	527	21
LINDENBERG	093930	52.22	14.12	5A	548	22
LUEDENSCHEID	104180	51.25	7.65	5A	1219	48
MAGDEBURG	093610	52.10	11.58	5A	508	20
MARNITZ (AUT)	102640	53.32	11.93	5A	608	24
MEININGEN	105480	50.57	10.38	6A	662	26
MEMMINGEN (GER-AFB)	109470	47.98	10.23	5A	1179	46
MENDIG	105140	50.37	7.32	5A	719	28
MESSSTETTEN	108270	48.18	9.00	6A	869	34
MUNICH	108650	48.13	11.55	5A	991	39
MUNICH/RIEM	108660	48.13	11.70	5A	928	37
NEUBURG/DONAU	108530	48.72	11.22	5A	766	30
NEUHAUSEN OB ECK	109210	47.98	8.90	6A	850	33
NEURUPPIN	102700	52.90	12.82	5A	566	22
NIEDERSTETTEN	107430	49.38	9.97	5A	781	31
NOERVENICH	105020	50.83	6.67	5A	701	28
NORDHOLZ	101360	53.77	8.67	5A	835	33
NUERBURG-BARWEILER	105060	50.37	6.87	5A	744	29
NURNBERG	107630	49.50	11.08	5A	627	25
OLDENBURG	102150	53.18	8.17	5A	765	30
OSCHATZ	104800	51.30	13.10	5A	571	22
PASSAU	108930	48.58	13.47	5A	955	38
PFERDSFELD (GER-AF)	106260	49.85	7.60	5A	628	25
PLAUEN (AUT)	105690	50.48	12.13	5A	727	29
POTSDAM	093790	52.38	13.07	5A	580	23
QUICKBORN	101460	53.73	9.88	5A	750	30
RAMSTEIN	106140	49.43	7.60	5A	864	34
REGENSBURG/OBERHUB	107760	49.05	12.10	5A	636	25
RHEINE-BENTLAGE	103060	52.30	7.38	5A	761	30
ROTH	107650	49.22	11.10	5A	725	29
SAARBRUCKEN/ENSHEIM	107080	49.22	7.12	5A	852	34
SCHLESWIG-JAGEL	100370	54.47	9.52	5A	898	35
SCHMUECKE (RIDGE)	105520	50.65	10.77	6A	893	35
SCHWERIN	091620	53.63	11.42	5A	629	25
SEEHAUSEN/ALTMARK	092610	52.90	11.73	5A	557	22
SONNEBERG/NEUFANG	105580	50.38	11.18	6A	896	35
SPANGDAHLEM	106070	49.98	6.70	5A	774	30
STRAUBING	107880	48.83	12.57	5A	835	33
STUTTGART/ECHTERDI	107380	48.68	9.22	5A	718	28
STUTTGART/SCHNARREN	107390	48.83	9.20	5A	672	26
TETEROW	101770	53.77	12.62	5A	592	23
TRIER/PETRISBERG	106090	49.75	6.67	5A	764	30
TROLLENHAGEN	102810	53.60	13.32	5A	548	22
UECKERMUENDE (AUT)	091930	53.75	14.07	5A	546	21
WAREN	102680	53.52	12.67	5A	567	22
WARNEMUENDE	091700	54.18	12.08	5A	597	23
WASSERKUPPE (MOUNT)	105440	50.50	9.95	6A	883	35
WEIMAR	105550	50.98	11.32	5A	572	23
WERNIGERODE (AUT)	104540	51.85	10.77	5A	587	23
WESTERMARKELSDORF	100550	54.53	11.07	5A	585	23
WIESENBURG	103680	52.12	12.47	5A	578	23

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
WILDENRATH(GAFB)	104020	51.12	6.22	5A	747	29
WITTENBERG	104740	51.88	12.65	5A	576	23
WITTMUNDHAVEN	101260	53.55	7.67	5A	793	31
WUNSTORF	103340	52.47	9.43	5A	773	30
ZINNWALD/GEORGENFE	105820	50.73	13.75	6A	686	27
ZUGSPITZE MOUNTAIN	109610	47.42	10.98	8	2020	80
Gibraltar (GIB)						
GIBRALTAR	084950	36.15	–5.35	3A	750	30
Greece (GRC)						
AKTION (AIRPORT)	166430	38.95	20.77	3A	917	36
ALEXANDROUPOLI (AIR)	166270	40.85	25.92	4A	554	22
ANDRAVIDA (AIRPORT)	166820	37.92	21.28	3A	820	32
ARAXOS (AIRPORT)	166870	38.15	21.42	3A	659	26
ATHINAI (AIRPORT)	167160	37.90	23.73	3B	353	14
CHRYSOPOULI (AIRPORT)	166240	40.98	24.60	3A	456	18
ELEFSIS (AIRPORT)	167180	38.07	23.55	3A	438	17
HERAKLION (AIRPORT)	167540	35.33	25.18	3A	485	19
KALAMATA (AIRPORT)	167260	37.07	22.02	3A	783	31
KERKYRA (AIRPORT)	166410	39.62	19.92	3A	1057	42
KOS (AIRPORT)	167420	36.78	27.07	3A	687	27
LARISSA (AIRPORT)	166480	39.63	22.42	3B	420	17
LIMNOS (AIRPORT)	166500	39.92	25.23	3A	480	19
METHONI	167340	36.83	21.70	3A	688	27
MILOS	167380	36.72	24.45	3A	409	16
MYTILINI (AIRPORT)	166670	39.07	26.60	3A	662	26
NAXOS	167320	37.10	25.38	3A	602	24
RHODES (AIRPORT)	167490	36.40	28.08	3A	743	29
SAMOS (AIRPORT)	167230	37.70	26.92	3A	606	24
SKYROS (AIRPORT)	166840	38.97	24.48	3A	661	26
SOUDA (AIRPORT)	167460	35.48	24.12	3A	792	31
SOUDA BAY CRETE	167464	35.53	24.15	3A	555	22
THESSALONIKI (AIRPORT)	166220	40.52	22.97	3B	444	17
TRIPOLIS (AIRPORT)	167100	37.53	22.40	4A	802	32
Greenland (GRL)						
AASIAAT (EGEDESMINDE)	042200	68.70	–52.85	8	287	11
ANGISOQ	042850	59.98	–45.20	7	1524	60
APUTITEEQ	043510	67.78	–32.30	8	949	37
DANEBORG	043300	74.30	–20.22	8	236	9
DANMARKSHAVN	043200	76.77	–18.67	8	156	6
HALL LAND	042070	81.68	–59.93	8	153	6
HENRIK KROEYER HOLM	043130	80.65	–13.72	8	226	9
IKERMIIT	043730	64.78	–40.30	8	918	36
IKERMIUARSUK	043820	61.93	–42.07	7	1333	52
ILULISSAT (JAKOBSHAVN)	042210	69.23	–51.07	8	258	10
ITTOQQORTOORMIIT	043390	70.48	–21.95	8	411	16
KANGERLUSSUAQ (SDR.)	042310	67.02	–50.70	8	181	7
KAP MORRIS JESUP	043010	83.65	–33.37	8	202	8
KITSISSORSUIT	042080	74.03	–57.82	8	230	9
KITSISSUT (ATTU)	042280	67.78	–53.97	8	325	13
KITSISSUT (CAREY OEER)	042030	76.63	–73.00	8	212	8
NARSARSUAQ	042700	61.13	–45.43	7	615	24
NUNARSUIT	042660	60.77	–48.42	7	1008	40
NUUK (GODTHAAB)	042500	64.17	–51.75	8	735	29

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
NUUSSUAATAA	042140	70.68	–54.62	8	273	11
PAAMIUT (FREDERIKSHAAB)	042600	62.00	–49.67	8	885	35
PITUFFIK (THULE A.B.)	042020	76.53	–68.75	8	113	4
PRINS CHRISTIAN SUN	043900	60.05	–43.17	7	2102	83
QAQORTOQ (JULIANEHAAB)	042720	60.72	–46.05	7	851	33
SIORALIK	042420	65.02	–52.55	8	588	23
SISIMIUT (HOLSTEINS)	042300	66.92	–53.67	8	379	15
STATION NORD AWS	043120	81.60	–16.68	8	233	9
TASIILAQ (AMMASSALIK)	043600	65.60	–37.63	8	910	36
UKIIVIK (FREDERIKSHAAB)	042530	62.57	–50.42	7	858	34
Grenada (GRD)						
POINT SALINES AIRPO	789580	12.00	–61.78	0A	1197	47
Guam (GUM)						
ANDERSEN AFB	912180	13.57	144.92	0A	2354	93
GUAM WFO	912120	13.48	144.80	0A	2288	90
Guatemala (GTM)						
GUATEMALA (AEROPUERTO)	786410	14.58	–90.52	2A	1141	45
Guernsey (GGY)						
GUERNSEY AIRPORT	038940	49.43	–2.60	4A	872	34
Guyana (GUY)						
TIMEHRI\CHEDDI JAG	810020	6.50	–58.25	0A	2234	88
Honduras (HND)						
LA MESA (SAN PEDRO SULA)	787080	15.45	–87.93	0A	1192	47
TEGUCIGALPA	787200	14.05	–87.22	2A	1085	43
Hungary (HUN)						
BAJA	129600	46.18	19.02	5A	592	23
BEKESCSABA	129920	46.68	21.17	5A	551	22
BUDAORS	128380	47.45	18.97	5A	560	22
BUDAPEST/FERIHEGY I	128390	47.43	19.27	5A	533	21
BUDAPEST/PESTSZENTL	128430	47.43	19.18	5A	533	21
DEBRECEN	128820	47.48	21.60	5A	559	22
GYOR	128220	47.72	17.68	5A	573	23
KECSKEMET	129700	46.92	19.75	5A	521	20
KEKESTETO	128510	47.87	20.02	6A	614	24
KESZTHELY	129200	46.73	17.23	5A	667	26
MISKOLC	127720	48.10	20.77	5A	557	22
MOSONMAGYAROVAR	128150	47.88	17.28	5A	570	22
NAGYKANIZSA	129250	46.45	16.97	5A	767	30
NYIREGYHAZA/NAPKOR	128920	47.97	21.88	5A	541	21
PAKS	129500	46.58	18.85	5A	564	22
PAPA	128250	47.20	17.50	5A	646	25
PECS/POGANY	129420	46.00	18.23	4A	648	25
SIOFOK	129350	46.92	18.05	4A	612	24
SOPRON	128050	47.68	16.60	5A	663	26
SZEGED	129820	46.25	20.10	5A	507	20
SZENTGOTTHARD/FARKA	129100	46.92	16.32	5A	788	31
SZOLNOK	128600	47.12	20.23	5A	509	20
SZOMBATHELY	128120	47.27	16.63	5A	662	26
TASZAR	129320	46.40	17.92	4A	662	26
VESZPREM/SZENTKIRAL	128300	47.07	17.83	5A	617	24
ZALAEGERSZEG/ANDRAS	129150	46.87	16.80	5A	693	27
Iceland (ISL)						
AKUREYRI	040630	65.68	–18.08	7	500	20

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
AKURNES	040820	64.30	–15.22	7	1370	54
BERGSTADIR	040530	65.70	–19.62	7	504	20
BOLUNGAVIK	040050	66.15	–23.25	7	969	38
DALATANGI	040970	65.27	–13.58	7	1301	51
EGILSSTADIR	040890	65.28	–14.40	7	760	30
GUFUSKALAR	040040	64.90	–23.93	7	1067	42
HORNBJARGSVITI (LH)	040230	66.42	–22.38	7	1018	40
HVERAVELLIR	040560	64.87	–19.57	7	701	28
KEFLAVIK	040180	63.97	–22.60	6A	1109	44
KIRKJUBAEJARKLAUSTU	040640	63.78	–18.07	6A	1857	73
RAUFARHOFN	040770	66.45	–15.95	7	686	27
REYKJAVIK	040300	64.13	–21.90	6A	818	32
VESTMANNAEYJAR	040480	63.40	–20.28	6A	1572	62
India (IND)						
AGARTALA	427240	23.88	91.25	1A	2260	89
AHMADABAD	426470	23.07	72.63	0B	773	30
AKOLA	429340	20.70	77.07	0B	772	30
AURANGABAD CHIKALTH	430140	19.85	75.40	1A	799	31
BALASORE	428950	21.52	86.93	0A	1635	64
BANGALORE	432950	12.97	77.58	1A	997	39
BELGAUM/SAMBRA	431980	15.85	74.62	1A	1063	42
BHOPAL/BAIRAGARH	426670	23.28	77.35	1A	1207	48
BHUBANESWAR	429710	20.25	85.83	0A	1514	60
BHUJ-RUDRAMATA	426340	23.25	69.67	0B	362	14
BIKANER	421650	28.00	73.30	0B	285	11
BOMBAY/SANTACRUZ	430030	19.12	72.85	0A	2448	96
CALCUTTA/DUM DUM	428090	22.65	88.45	0A	1675	66
CHITRADURGA	432330	14.23	76.43	1B	608	24
COIMBATORE/PEELAMED	433210	11.03	77.05	0B	648	26
CUDDALORE	433290	11.77	79.77	0A	1384	54
CWC VISHAKHAPATNAM	431500	17.70	83.30	0A	996	39
GADAG	432010	15.42	75.63	1B	669	26
GAUHATI	424100	26.10	91.58	1A	1690	67
GOA/PANJIM	431920	15.48	73.82	0A	2840	112
GWALIOR	423610	26.23	78.25	1A	817	32
HISSAR	421310	29.17	75.73	1B	401	16
HYDERABAD AIRPORT	431280	17.45	78.47	0A	822	32
INDORE	427540	22.72	75.80	1A	956	38
JABALPUR	426750	23.20	79.95	1A	1336	53
JAGDALPUR	430410	19.08	82.03	1A	1435	56
JAIPUR/SANGANER	423480	26.82	75.80	1B	562	22
JAMSHEDPUR	427980	22.82	86.18	0A	1434	56
JODHPUR	423390	26.30	73.02	0B	342	13
KAKINADA	431890	16.95	82.23	0A	1048	41
KOZHIKODE	433140	11.25	75.78	0A	3163	125
KURNOOL	432130	15.80	78.07	0B	695	27
LUCKNOW/AMAUSI	423690	26.75	80.88	1A	1038	41
MACHILIPATNAM	431850	16.20	81.15	0A	1090	43
MADRAS/MINAMBAKKAM	432790	13.00	80.18	0A	1401	55
MANGALORE/BAJPE	432840	12.92	74.88	0A	3730	147
NAGPUR SONEGAON	428670	21.10	79.05	0A	1110	44
NELLORE	432450	14.45	79.98	0A	1046	41
NEW DELHI/PALAM	421810	28.57	77.12	1B	783	31

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
NEW DELHI/SAFDARJUN	421820	28.58	77.20	1B	783	31
PATIALA	421010	30.33	76.47	2B	728	29
PATNA	424920	25.60	85.10	1A	1169	46
PBO ANANTAPUR	432370	14.58	77.63	0B	533	21
POONA	430630	18.53	73.85	1B	733	29
RAJKOT	427370	22.30	70.78	0B	659	26
RATNAGIRI	431100	16.98	73.33	0A	2851	112
SHOLAPUR	431170	17.67	75.90	0B	716	28
SURAT	428400	21.20	72.83	0A	1252	49
THIRUVANANTHAPURAM	433710	8.48	76.95	0A	1795	71
TIRUCHCHIRAPALLI	433440	10.77	78.72	0A	915	36
VERAVAL	429090	20.90	70.37	0B	802	32
Indonesia (IDN)						
DENPASAR/NGURAH RAI	972300	–8.75	115.17	0A	1558	61
JAKARTA/SOEKARNO-HA	967490	–6.12	106.65	0A	1979	78
MEDAN/POLONIA	960350	3.57	98.68	0A	2465	97
MENADO/ SAM RATULAN	970140	1.53	124.92	0A	3143	124
PADANG/TABING	961630	–0.88	100.35	0A	3801	150
PEKAN BARU/SIMPANGT	961090	0.47	101.45	0A	2603	102
RENGAT/JAPURA	961710	–0.33	102.32	0A	2230	88
SIBOLGA/PINANGSORI	960730	1.55	98.88	0A	4076	160
SURABAYA/JUANDA	969350	–7.37	112.77	0A	1650	65
UJUNG PANDANG/HASAN	971800	–5.07	119.55	0A	3307	130
Iran, Islamic Republic of (IRN)						
ABADAN	408310	30.37	48.25	1B	160	6
AHWAZ	408110	31.33	48.67	1B	222	9
ANZALI	407180	37.47	49.47	3A	1427	56
ARAK	407690	34.10	49.77	4A	351	14
BABULSAR	407360	36.72	52.65	3A	799	31
BANDARABBASS	408750	27.22	56.37	0B	181	7
BIRJAND	408090	32.87	59.20	3B	190	7
ESFAHAN	408000	32.47	51.67	3B	143	6
HAMEDAN	407680	34.85	48.53	4A	351	14
KASHAN	407850	33.98	51.45	2B	141	6
KERMAN	408410	30.25	56.97	3B	157	6
KERMANSHAH	407660	34.27	47.12	4A	450	18
KHOY	407030	38.55	44.97	4B	359	14
MASHHAD	407450	36.27	59.63	4B	268	11
ORUMIEH	407120	37.53	45.08	4B	274	11
RAMSAR	407320	36.90	50.67	3A	1144	45
SABZEVAR	407430	36.22	57.67	3B	193	8
SHAHRUD	407390	36.42	54.95	4B	175	7
SHIRAZ	408480	29.53	52.53	3A	381	15
TABRIZ	407060	38.08	46.28	4B	270	11
TEHRAN-MEHRABAD	407540	35.68	51.32	3B	217	9
TORBAT-HEYDARIEH	407620	35.27	59.22	4B	282	11
ZAHEDAN	408560	29.47	60.88	2B	87	3
ZANJAN	407290	36.68	48.48	4B	314	12
Ireland (IRL)						
BELMULLET	039760	54.23	–10.00	4A	1185	47
BIRR	039650	53.08	–7.88	5A	825	32
CASEMENT AERODROME	039670	53.30	–6.43	5A	735	29
CLAREMORRIS	039700	53.72	–8.98	5A	1146	45

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CLONES	039740	54.18	–7.23	5A	942	37
CONNAUGHT AIRPORT	039730	53.90	–8.82	5A	1264	50
CORK AIRPORT	039550	51.85	–8.48	5A	1221	48
DUBLIN AIRPORT	039690	53.43	–6.25	5A	743	29
KILKENNY	039600	52.67	–7.27	5A	842	33
MALIN HEAD	039800	55.37	–7.33	5A	1084	43
MULLINGAR	039710	53.53	–7.37	5A	945	37
ROCHES POINT	039520	51.80	–8.25	4A	945	37
ROSSLARE	039570	52.25	–6.33	4A	877	35
SHANNON AIRPORT	039620	52.70	–8.92	4A	960	38
VALENTIA OBSERVATOR	039530	51.93	–10.25	4A	1488	59
Isle of Man (IMN)						
ISLE OF MAN/RONALDS	032040	54.08	–4.63	5A	947	37
POINT OF AYRE (LH)	032080	54.42	–4.37	4A	838	33
Israel (ISR)						
BEER-SHEVA	401910	31.23	34.78	2B	193	8
BEN-GURION INT. AIR	401800	32.00	34.90	2A	563	22
EILAT	401990	29.55	34.95	1B	23	1
HAIFA	401550	32.80	35.03	2A	613	24
OVDA	401980	30.00	34.83	2B	25	1
SDE-DOV (TEL-AVIV)	401760	32.10	34.78	2A	564	22
Italy (ITA)						
ALGHERO	165200	40.63	8.28	3A	583	23
AMENDOLA	162610	41.53	15.72	3A	508	20
AVIANO (USAF)	160365	46.02	12.62	4A	1404	55
BARI/PALESE MACCHIE	162700	41.13	16.78	3A	549	22
BERGAMO/ORIO AL SER	160760	45.67	9.70	4A	1085	43
BOLOGNA/BORGO PANIG	161400	44.53	11.30	4A	725	29
BOLZANO	160200	46.47	11.33	4A	725	29
BRESCIA/GHEDI	160880	45.42	10.28	4A	896	35
BRINDISI	163200	40.65	17.95	3A	601	24
CAGLIARI/ELMAS	165600	39.25	9.07	3A	422	17
CAMPOBASSO	162520	41.57	14.65	4A	634	25
CAPO BELLAVISTA	165500	39.93	9.72	3A	604	24
CAPO CACCIA	165220	40.57	8.17	3A	521	21
CAPO FRASCA	165390	39.75	8.47	3A	541	21
CAPO MELE	161530	43.95	8.17	3A	786	31
CAPO PALINURO	163100	40.02	15.28	3A	766	30
CATANIA/FONTANAROSS	164600	37.47	15.05	3A	564	22
CATANIA/SIGONELLA	164590	37.40	14.92	3A	518	20
CERVIA	161480	44.22	12.30	4A	722	28
COZZO SPADARO	164800	36.68	15.13	3B	364	14
CROTONE	163500	39.00	17.07	3A	707	28
DOBBIACO	160330	46.73	12.22	6A	876	34
FALCONARA	161910	43.62	13.37	3A	809	32
FIRENZE/PERETOLA	161700	43.80	11.20	3A	847	33
FORLI	161470	44.20	12.07	4A	747	29
FUCINO	162270	41.88	13.58	4C	923	36
GELA	164530	37.08	14.22	3A	384	15
GENOVA/SESTRI	161200	44.42	8.85	3A	1110	44
GIOIA DEL COLLE	163120	40.77	16.93	3A	672	26
GRAZZANISE	162530	41.05	14.07	3A	930	37
GROSSETO	162060	42.75	11.07	3A	653	26

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ISOLA DI CARLOFORTE	165490	39.13	8.32	3A	571	22
LAMEZIA TERME	163620	38.90	16.25	3A	927	36
LAMPEDUSA	164900	35.50	12.60	2B	270	11
LATINA	162430	41.55	12.90	3A	969	38
LECCE	163320	40.23	18.15	3A	662	26
MARINA DI GINOSA	163250	40.43	16.88	3B	449	18
MESSINA	164200	38.20	15.55	3A	852	34
MILANO/LINATE	160800	45.43	9.28	4A	971	38
MILANO/MALPENSA	160660	45.62	8.73	4A	1087	43
MONTE ARGENTARIO	161680	42.38	11.17	4A	525	21
MONTE CIMONE	161340	44.20	10.70	7	778	31
MONTE SCURO	163440	39.33	16.40	5C	822	32
MONTE TERMINILLO	162190	42.47	12.98	6A	787	31
NAPLES	162894	40.90	14.30	3A	1019	40
NAPOLI/CAPODICHINO	162890	40.85	14.30	3A	1019	40
NOVARA/CAMERI	160640	45.52	8.67	4A	1087	43
NOVI LIGURE	161180	44.77	8.78	4A	812	32
OLBIA/COSTA SMERALD	165310	40.90	9.52	3A	535	21
PAGANELLA	160220	46.15	11.03	7	917	36
PALERMO/PUNTA RAISI	164050	38.18	13.10	3A	620	24
PANTELLERIA	164700	36.82	11.97	3B	442	17
PASSO ROLLE	160210	46.30	11.78	7	1044	41
PERUGIA	161810	43.08	12.50	4A	850	33
PESCARA	162300	42.43	14.20	3A	696	27
PIACENZA	160840	44.92	9.73	4A	911	36
PIAN ROSA	160520	45.93	7.70	8	513	20
PISA/S. GIUSTO	161580	43.68	10.38	3A	890	35
PONZA	162800	40.92	12.95	3A	631	25
PRATICA DI MARE	162450	41.65	12.45	3A	812	32
REGGIO CALABRIA	164220	38.07	15.65	3A	680	27
RESIA PASS	160083	46.83	10.50	6A	747	29
RIMINI	161490	44.03	12.62	4A	716	28
ROMA FIUMICINO	162420	41.80	12.23	3A	708	28
ROMA/CIAMPINO	162390	41.78	12.58	3A	800	32
RONCHI DEI LEGIONAR	161080	45.82	13.48	4A	1331	52
S. MARIA DI LEUCA	163600	39.82	18.35	3A	662	26
S. VALENTINO ALLA M	160080	46.75	10.53	6A	694	27
TORINO/BRIC DELLA C	160610	45.03	7.73	4A	816	32
TORINO/CASELLE	160590	45.22	7.65	4A	929	37
TRAPANI/BIRGI	164290	37.92	12.50	3A	470	18
TREVISO/ISTRANA	160980	45.68	12.10	4A	966	38
TREVISO/S. ANGELO	160990	45.65	12.18	4A	966	38
TRIESTE	161100	45.65	13.75	3A	1036	41
UDINE/RIVOLTO	160450	45.98	13.03	4A	1240	49
USTICA	164000	38.70	13.18	3A	400	16
VENEZIA/TESSERA	161050	45.50	12.33	4A	859	34
VERONA/VILLAFRANCA	160900	45.38	10.87	4A	769	30
Jamaica (JAM)						
KINGSTON/NORMAN MAN	783970	17.93	–76.78	0A	730	29
MONTEGO BAY/SANGSTE	783880	18.50	–77.92	0A	1184	47
Japan (JPN)						
ABASHIRI	474090	44.02	144.28	6A	819	32
ABURATSU	478350	31.58	131.40	3A	2593	102

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
AIKAWA	476020	38.03	138.23	4A	1595	63
AJIRO	476680	35.05	139.10	3A	1832	72
AKITA	475820	39.72	140.10	4A	1727	68
AKUNE	478230	32.03	130.20	3A	2151	85
AOMORI	475750	40.82	140.77	5A	1325	52
ASAHIKAWA	474070	43.77	142.37	6A	1066	42
ASHIYA AB	478030	33.88	130.65	3A	1798	71
ASOSAN	478210	32.88	131.07	5A	2852	112
ATSUGI NAS	476790	35.45	139.45	3A	1556	61
CHIBA	476820	35.60	140.10	3A	1371	54
CHICHIBU	476410	35.98	139.07	4A	1382	54
CHICHIJIMA ISLAND	479710	27.08	142.18	2A	1321	52
CHITOSE (JASDF)	474340	42.82	141.68	6A	1212	48
CHITOSE AB	474250	42.80	141.67	6A	1212	48
CHOSHI	476480	35.73	140.85	3A	1641	65
ESASHI	474280	41.87	140.12	5A	1222	48
FUJISAN	476390	35.37	138.73	8	1624	64
FUKAURA	475740	40.65	139.93	5A	1508	59
FUKUE	478430	32.70	128.83	3A	1862	73
FUKUI	476160	36.05	136.22	4A	2381	94
FUKUOKA	478070	33.58	130.38	3A	1620	64
FUKUOKA AIRPORT	478080	33.58	130.45	3A	1620	64
FUKUSHIMA	475950	37.77	140.47	4A	1148	45
FUKUYAMA	477670	34.45	133.25	3A	1186	47
FUSHIKI	476060	36.80	137.05	4A	2302	91
FUTENMA	479330	26.27	127.75	2A	2078	82
GIFU	476320	35.40	136.77	3A	1820	72
GIFU AB	476340	35.38	136.87	3A	1820	72
HABORO	474040	44.37	141.70	6A	1322	52
HACHIJOJIMA	476780	33.12	139.78	3A	3153	124
HACHINOHE	475810	40.53	141.52	5A	1074	42
HACHINOHE AB	475150	40.55	141.47	5A	1114	44
HAGI	477540	34.42	131.40	3A	1773	70
HAKODATE	474300	41.82	140.75	5A	1172	46
HAMADA	477550	34.90	132.07	3A	1649	65
HAMAMATSU	476540	34.72	137.72	3A	1859	73
HAMAMATSU AB	476810	34.75	137.70	3A	1859	73
HIKONE	477610	35.28	136.25	4A	2007	79
HIMEJI	477690	34.83	134.67	3A	1352	53
HIRADO	478050	33.37	129.55	3A	2036	80
HIROO	474400	42.30	143.32	6A	1511	59
HIROSHIMA	477650	34.40	132.47	3A	1565	62
HITA	478140	33.32	130.93	3A	1883	74
HITOYOSHI	478240	32.22	130.75	3A	2414	95
HOFU AB	477880	34.03	131.55	3A	1829	72
HYAKURI AB	477150	36.18	140.42	4A	1308	52
IIDA	476370	35.52	137.82	4A	1537	61
IIZUKA	478090	33.65	130.70	3A	1780	70
IRAKO	476530	34.63	137.10	3A	1664	66
IROZAKI	476660	34.60	138.85	3A	2022	80
IRUMA AB	476430	35.83	139.42	4A	1432	56
ISHIGAKIJIMA	479180	24.33	124.17	1A	2064	81
ISHINOMAKI	475920	38.43	141.30	4A	1115	44

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
IWAKUNI	477640	34.15	132.23	3A	1693	67
IWAMIZAWA	474130	43.22	141.78	6A	1211	48
IWOJIMA	479810	24.78	141.32	1A	1205	47
IZUHARA	478000	34.20	129.30	3A	2207	87
KADENA (USAF\NAVY)	479310	26.35	127.77	2A	2078	82
KAGOSHIMA	478270	31.55	130.55	3A	2245	88
KANAZAWA	476050	36.58	136.63	4A	2465	97
KANOYA AB	478500	31.37	130.83	3A	2421	95
KANSAI INTERNATIONA	477740	34.43	135.25	3A	1412	56
KARUIZAWA	476220	36.35	138.55	5A	1275	50
KATSUURA	476740	35.15	140.32	3A	1873	74
KAWAGUCHIKO	476400	35.50	138.77	4A	1671	66
KITAMIESASHI	474020	44.93	142.58	6A	1170	46
KOBE	477700	34.70	135.22	3A	1376	54
KOCHI	478930	33.57	133.55	3A	2601	102
KOFU	476380	35.67	138.55	4A	1304	51
KOMATSU AB	477040	36.40	136.40	4A	2453	97
KOMATSUSHIMA AB	478840	34.00	134.63	3A	1870	74
KUMAGAYA	476260	36.15	139.38	3A	1311	52
KUMAMOTO	478190	32.82	130.70	3A	2280	90
KUMEJIMA	479290	26.33	126.80	2A	1851	73
KURE	477660	34.23	132.55	3A	1442	57
KUSHIRO	474180	42.98	144.38	6A	1074	42
KUTCHAN	474330	42.90	140.75	6A	1405	55
KYOTO	477590	35.02	135.73	3A	1662	65
MAEBASHI	476240	36.40	139.07	4A	1173	46
MAIZURU	477500	35.45	135.32	4A	1886	74
MAKURAZAKI	478310	31.27	130.30	3A	2254	89
MATSUE	477410	35.45	133.07	3A	1737	68
MATSUMOTO	476180	36.25	137.97	4A	1024	40
MATSUSHIMA AB	475910	38.40	141.22	4A	1157	46
MATSUYAMA	478870	33.85	132.78	3A	1443	57
MIHO AB	477430	35.48	133.23	3A	1894	75
MINAMIDAITOJIMA	479450	25.83	131.23	2A	1596	63
MINAMITORISHIMA	479910	24.28	153.98	1A	1014	40
MISAWA AB	475800	40.70	141.37	5A	1114	44
MISHIMA	476570	35.12	138.93	3A	1888	74
MITO	476290	36.38	140.47	4A	1324	52
MIYAKEJIMA	476770	34.12	139.52	3A	1880	74
MIYAKO	475850	39.65	141.97	5A	1306	51
MIYAKOJIMA	479270	24.80	125.28	1A	2012	79
MIYAKONOJO	478290	31.73	131.08	3A	2527	99
MIYAZAKI	478300	31.93	131.42	3A	2480	98
MOMBETSU	474350	44.35	143.35	6A	851	33
MORIOKA	475840	39.70	141.17	5A	1302	51
MURORAN	474230	42.32	140.98	5A	1263	50
MUROTOMISAKI	478990	33.25	134.18	3A	2455	97
MUTSU	475760	41.28	141.22	5A	1288	51
NAGANO	476100	36.67	138.20	4A	1176	46
NAGASAKI	478170	32.73	129.87	3A	1898	75
NAGOYA	476360	35.17	136.97	3A	1541	61
NAGOYA AIRPORT	476350	35.25	136.92	3A	1541	61
NAHA	479360	26.20	127.68	2A	2026	80

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
NAHA AIRPORT	479300	26.20	127.65	2A	2026	80
NARA	477800	34.70	135.83	3A	1504	59
NAZE	479090	28.38	129.50	2A	2856	112
NEMURO	474200	43.33	145.58	6A	1040	41
NEW TOKYO INTERNATI	476860	35.77	140.38	4A	1353	53
NIIGATA	476040	37.92	139.05	4A	1802	71
NIKKO	476900	36.73	139.50	6A	1763	69
NOBEOKA	478220	32.58	131.65	3A	2359	93
NYUTABARU AB	478540	32.08	131.45	3A	2472	97
OBIHIRO	474170	42.92	143.22	6A	1007	40
OFUNATO	475120	39.07	141.72	4A	1464	58
OITA	478150	33.23	131.62	3A	1670	66
OKAYAMA	477680	34.67	133.92	3A	1208	48
OKINOERABU	479420	27.43	128.70	2A	2084	82
OMAEZAKI	476550	34.60	138.22	3A	2069	81
OMINATO AB	475160	41.23	141.13	5A	1288	51
OMU	474050	44.58	142.97	6A	988	39
ONAHAMA	475980	36.95	140.90	4A	1380	54
OSAKA	477720	34.68	135.52	3A	1303	51
OSAKA INTERNATIONAL	477710	34.78	135.43	3A	1431	56
OSHIMA	476750	34.75	139.38	3A	1880	74
OTARU	474110	43.18	141.02	5A	1245	49
OWASE	476630	34.07	136.20	3A	3605	142
OZUKI AB	477870	34.05	131.05	3A	1776	70
RUMOI	474060	43.95	141.63	6A	1248	49
SAGA	478130	33.27	130.30	3A	1806	71
SAIGO	477400	36.20	133.33	4A	1599	63
SAKAI	477420	35.55	133.23	3A	1921	76
SAKATA	475870	38.92	139.85	4A	1883	74
SAPPORO	474120	43.07	141.33	5A	1120	44
SASEBO	478120	33.15	129.73	3A	2024	80
SENDAI	475900	38.27	140.90	4A	1242	49
SHIMIZU	478980	32.72	133.02	3A	2465	97
SHIMOFUSA AB	477270	35.80	140.02	3A	1296	51
SHIMONOSEKI	477620	33.95	130.93	3A	1772	70
SHINJO	475200	38.75	140.32	5A	1669	66
SHIONOMISAKI	477780	33.45	135.77	3A	2605	103
SHIRAKAWA	475970	37.13	140.22	4A	1367	54
SHIZUHAMA AB	476580	34.82	138.30	3A	2215	87
SHIZUOKA	476560	34.98	138.40	3A	2215	87
SUKUMO	478970	32.92	132.70	3A	2007	79
SUMOTO	477760	34.33	134.90	3A	1482	58
SUTTSU	474210	42.80	140.22	5A	1212	48
SUWA	476200	36.05	138.12	4A	1205	47
TADOTSU	478900	34.28	133.75	3A	1191	47
TAKADA	476120	37.10	138.25	4A	2619	103
TAKAMATSU	478910	34.32	134.05	3A	1087	43
TAKAYAMA	476170	36.15	137.25	4A	1653	65
TANEGASHIMA	478370	30.73	130.98	2A	2157	85
TATEYAMA	476720	34.98	139.87	3A	1797	71
TATEYAMA AB	476880	34.98	139.83	3A	1797	71
TOKUSHIMA	478950	34.07	134.57	3A	1622	64
TOKUSHIMA AB	478810	34.13	134.62	3A	1622	64

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
TOKYO	476620	35.68	139.77	3A	1441	57
TOKYO INTERNATIONAL	476710	35.55	139.78	3A	1441	57
TOMAKOMAI	474240	42.62	141.55	6A	1229	48
TOTTORI	477460	35.48	134.20	3A	1814	71
TOYAMA	476070	36.72	137.20	4A	2252	89
TOYOOKA	477470	35.53	134.82	4A	2019	80
TSU	476510	34.73	136.52	3A	1768	70
TSUIKI AB	478400	33.68	131.05	3A	1795	71
TSURUGA	476310	35.65	136.07	3A	2264	89
TSUYAMA	477560	35.07	134.02	4A	1578	62
UENO	476490	34.77	136.15	4A	1531	60
UNZENDAKE	478180	32.73	130.27	4A	2576	101
URAKAWA	474260	42.17	142.78	5A	1123	44
USHIBUKA	478380	31.72	130.03	3A	2244	88
UTSUNOMIYA	476150	36.55	139.87	4A	1543	61
UWAJIMA	478920	33.23	132.55	3A	1825	72
WAJIMA	476000	37.40	136.90	4A	2200	87
WAKAMATSU	475700	37.48	139.92	4A	1258	50
WAKAYAMA	477770	34.23	135.17	3A	1458	57
WAKKANAI	474010	45.42	141.68	6A	1116	44
YAKUSHIMA	478360	30.38	130.67	2A	2157	85
YAMAGATA	475880	38.25	140.35	4A	1172	46
YAMAGUCHI	477840	34.17	131.45	3A	1827	72
YOKKAICHI	476840	34.93	136.58	3A	1714	67
YOKOHAMA	476700	35.43	139.65	3A	1561	61
YOKOSUKA	476960	35.28	139.67	3A	1577	62
YOKOTA (JASDF/USAF)	476420	35.75	139.35	4A	1474	58
YONAGO	477440	35.43	133.33	3A	1860	73
YONAGUNIJIMA	479120	24.47	123.02	1A	1708	67
Jersey (JEY)						
JERSEY AIRPORT	038950	49.22	–2.20	4A	850	33
Jordan (JOR)						
AMMAN AIRPORT	402700	31.98	35.98	3B	271	11
AQABA AIRPORT	403400	29.55	35.00	1B	23	1
H-4 IRWAISHED	402500	32.50	38.20	2B	82	3
IRBED	402550	32.55	35.85	3A	483	19
MAAN	403100	30.17	35.78	3B	39	2
MAFRAQ	402650	32.37	36.25	3B	155	6
QUEEN ALIA AIRPORT	402720	31.72	35.98	3B	237	9
Kazakhstan (KAZ)						
AKKOL	350850	52.00	70.95	7	351	14
AKKUDUK	382320	42.97	54.12	5B	131	5
AKTOBE	352290	50.28	57.15	7	305	12
ALMATY	368700	43.23	76.93	5A	635	25
AMANGELDY	353610	50.13	65.23	7	229	9
ARALSKOE MORE	357460	46.78	61.65	6B	144	6
ASTANA	351880	51.13	71.37	7	315	12
ATBASAR	350780	51.82	68.37	7	305	12
ATYRAU	357000	47.12	51.92	5B	156	6
BALHASH	357960	46.80	75.08	6B	144	6
BALKASINO	289780	52.53	68.75	7	359	14
BARSHATAS	364980	48.17	78.67	7	215	8
BERLIK	353760	49.88	69.52	7	240	9

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BLACOVESCHENKA	287660	54.37	66.97	7	349	14
BOLSHE NARYMSKOE	364280	49.20	84.52	7	382	15
CARDARA	384390	41.37	68.00	4B	250	10
CELKAR	356330	47.85	59.62	7	185	7
CIRIK-RABAT	380490	44.07	62.90	5B	105	4
DZHAMBEJTY	352170	50.25	52.57	6B	265	10
DZHUSALY	359530	45.50	64.08	5B	140	6
ESIL	350670	51.88	66.33	7	281	11
FORT SHEVCHENKO	380010	44.55	50.25	4B	143	6
IRGIZ	355420	48.62	61.27	7	174	7
IRTYSHSK	298070	53.35	75.45	7	293	12
ISILKUL	286880	54.90	71.25	7	343	14
KARAGANDA	353940	49.80	73.15	7	331	13
KARSAKPAJ	356630	47.83	66.75	7	190	7
KAZALINSK	358490	45.77	62.12	6B	129	5
KOKPEKTY	365350	48.75	82.37	7	315	12
KOKSHETAY	288790	53.28	69.38	7	310	12
KOZASAJ	355290	48.22	57.12	6B	201	8
KULSARY	357150	46.80	53.92	6B	179	7
KUSTANAI	289520	53.22	63.62	7	328	13
KYZYLORDA	380620	44.85	65.50	5B	147	6
KZYLZAR	355760	48.30	69.65	7	193	8
LENINOGORSK	362080	50.33	83.55	7	656	26
MOINTY	357910	47.20	73.35	7	186	7
MUGODZARSKAJA	355320	48.63	58.50	6A	306	12
NOVYJ USHTOGAN	346910	47.90	48.80	5B	181	7
PAVLODAR	360030	52.30	76.93	7	256	10
PETROPAVLOVSK	286790	54.83	69.15	7	368	15
POLTAVKA	287860	54.37	71.75	7	333	13
RUZAEVKA	289660	52.82	66.97	7	332	13
SAM	359250	45.40	56.12	5B	152	6
SEMIJARKA	361520	50.87	78.35	7	227	9
SEMIPALATINSK	361770	50.42	80.30	7	286	11
SHYMKENT	383280	42.32	69.70	4A	554	22
SUCINSK	289840	52.95	70.22	7	328	13
TAIPAK	354060	49.05	51.87	6B	200	8
TASTY	380810	44.80	69.12	5B	166	7
TEMIR	354260	49.15	57.12	6A	273	11
TORGAI	353580	49.63	63.50	7	209	8
TURKESTAN	381980	43.27	68.22	4B	203	8
UC-ARAL	367290	46.17	80.93	6B	285	11
UIL	354160	49.07	54.68	6B	238	9
UJUK	382030	43.78	70.93	5B	213	8
ULANBEL`	380910	44.80	71.07	5B	158	6
URALSK	351080	51.25	51.28	6A	324	13
URDZHAR	366390	47.12	81.62	6A	443	17
URICKY	288670	53.32	65.55	7	343	14
VOLODARSKOE	288770	53.32	68.10	7	392	15
ZAJSAN	366650	47.47	84.92	7	301	12
ZHALTYR	351730	51.62	69.80	7	326	13
ZHAMBYL	383410	42.85	71.38	5B	334	13
ZHARKENT	368590	44.17	80.07	5B	180	7
ZHARYK	354970	48.85	72.87	7	330	13

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ZHEZKAZGAN	356710	47.80	67.72	7	190	7
ZLIKHA	359690	45.25	67.07	5B	141	6
ZMEINOGORSK	360380	51.15	82.20	7	664	26
ZVERINOGOLOVSKAJA	287560	54.47	64.87	7	343	14
Kenya (KEN)						
EMBU	637200	–0.50	37.45	3C	1173	46
GARISSA	637230	–0.47	39.63	0B	366	14
KISUMU	637080	–0.10	34.75	2A	1345	53
KITALE	636610	1.02	35.00	3A	1237	49
LODWAR	636120	3.12	35.62	0B	167	7
MAKINDU	637660	–2.28	37.83	2B	581	23
MARSABIT	636410	2.30	37.90	2A	821	32
MERU	636950	0.08	37.65	3C	1371	54
MOMBASA	638200	–4.03	39.62	1A	1095	43
MOYALE	636190	3.53	39.03	2A	701	28
NAIROBI/KENYATTA AI	637400	–1.32	36.92	3C	733	29
NAKURU	637140	–0.27	36.10	3C	907	36
NYERI	637170	–0.50	36.97	3C	1696	67
VOI	637930	–3.40	38.57	1B	577	23
Kiribati (KIR)						
TARAWA	916100	1.35	172.92	0A	2092	82
Korea, Democratic People's Republic of (PRK)						
ANJU	470500	39.62	125.65	5A	1162	46
CHANGJIN	470310	40.37	127.25	7	857	34
CHANGJON	470610	38.73	128.18	4A	1607	63
CHONGJIN	470080	41.78	129.82	5A	642	25
CHUNGGANG	470140	41.78	126.88	6A	837	33
HAEJU	470690	38.03	125.70	4A	1153	45
HAMHEUNG	470410	39.93	127.55	5A	966	38
HUICHON	470390	40.17	126.25	5A	1287	51
HYESAN	470160	41.40	128.17	7	675	27
KAESONG	470700	37.97	126.57	5A	1393	55
KANGGYE	470200	40.97	126.60	6A	953	38
KIMCHAEK	470250	40.67	129.20	5A	735	29
KUSONG	470370	39.98	125.25	5A	1308	52
NAMPO	470600	38.72	125.38	5A	976	38
PUNGSAN	470220	40.82	128.15	7	697	27
PYONGGANG	470750	38.42	127.28	5A	1388	55
PYONGYANG	470580	39.03	125.78	5A	1039	41
RYONGYON	470680	38.15	124.88	5A	981	39
SAMJIYON	470050	41.82	128.30	7	908	36
SARIWON	470650	38.52	125.77	5A	1043	41
SENBONG	470030	42.32	130.40	6A	788	31
SINGYE	470670	38.50	126.53	5A	1358	53
SINPO	470460	40.03	128.18	5A	826	33
SINUIJU	470350	40.10	124.38	5A	969	38
SUPUNG	470280	40.45	124.93	5A	1101	43
WONSAN	470550	39.18	127.43	4A	1452	57
YANGDOK	470520	39.22	126.65	5A	1220	48
Korea, Republic of (KOR)						
ANDONG	471360	36.57	128.72	4A	1024	40
BAENGNYEONGDO AB	471030	37.93	124.67	4A	934	37
BUSAN	471590	35.10	129.03	3A	1502	59

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CHEJU	471850	33.28	126.17	3A	1326	52
CHEONGJU	471310	36.63	127.45	4A	1208	48
CHEONGJU INTL AIRPO	471280	36.72	127.50	4A	1215	48
CHEORWON	470950	38.15	127.30	5A	1376	54
CHUNCHEON	471010	37.90	127.73	5A	1320	52
CHUPUNGNYEONG	471350	36.22	128.00	4A	1146	45
DAEGU	471430	35.88	128.62	4A	1028	40
DAEGU INTL AIRPORT	471420	35.90	128.67	4A	1028	40
DAEGWALLYEONG	471000	37.68	128.77	6A	1684	66
DAEJEON	471330	36.37	127.37	4A	1368	54
DONGHAE RADAR	471060	37.50	129.13	4A	1299	51
GANGNEUNG	471050	37.75	128.90	4A	1426	56
GANGNEUNG AB	471070	37.75	128.95	4A	1426	56
GIMHAE INTL AIRPORT	471530	35.18	128.93	4A	1498	59
GIMPO INTL AIRPORT	471100	37.57	126.78	5A	1386	55
GUNSAN	471400	36.00	126.77	4A	1188	47
GWANGJU	471560	35.17	126.90	4A	1337	53
GWANGJU AB	471580	35.12	126.82	4A	1337	53
INCHEON	471120	37.47	126.63	4A	1174	46
JEJU	471840	33.52	126.53	3A	1467	58
JEJU INTL AIRPORT	471820	33.52	126.50	3A	1467	58
JEONJU	471460	35.82	127.15	4A	1286	51
JINJU	471920	35.20	128.12	4A	1526	60
KUNSAN (US/KOR-AFB)	471410	35.90	126.62	4A	1205	47
MASAN	471550	35.18	128.57	3A	1532	60
MOESULPO AB	471870	33.20	126.27	3A	1486	59
MOKPO	471650	34.82	126.38	4A	1125	44
OSAN AB	471220	37.10	127.03	4A	1302	51
POHANG	471380	36.03	129.38	4A	1135	45
POHANG AB	471390	35.98	129.42	4A	1135	45
PYONGTAEK (A-511)	471270	36.97	127.03	4A	1250	49
SACHON (KOR-AFB)	471610	35.08	128.08	4A	1525	60
SEOGWIPO	471890	33.25	126.57	3A	1789	70
SEOSAN	471290	36.77	126.50	4A	1199	47
SEOUL	471080	37.57	126.97	4A	1400	55
SEOUL (KOR-AF HQ)	471170	37.50	126.93	4A	1400	55
SEOUL AB	471110	37.43	127.12	4A	1333	52
SOKCHO	470900	38.25	128.57	4A	1327	52
SUWON	471190	37.27	126.98	4A	1296	51
TONGYEONG	471620	34.85	128.43	3A	1423	56
ULJIN	471300	36.98	129.42	4A	1111	44
ULLEUNGDO	471150	37.48	130.90	4A	1334	53
ULSAN	471520	35.55	129.32	4A	1287	51
WANDO	471700	34.40	126.70	4A	1390	55
WONJU	471140	37.33	127.95	4A	1281	50
YECHEON AB	471340	36.63	128.35	4A	1141	45
YEONGWOL	471210	37.18	128.47	5A	1245	49
YEOSU	471680	34.73	127.75	4A	1415	56
Kuwait (KWT)						
KUWAIT INTERNATIONA	405820	29.22	47.97	1B	112	4
Kyrgyzstan (KGZ)						
BISHKEK	383530	42.85	74.53	5A	439	17
DZHALAL-ABAD	386130	40.92	72.95	4A	472	19

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
NARYN	369740	41.43	76.00	7	297	12
OSH	386150	40.53	72.80	4B	333	13
TALAS	383450	42.52	72.22	5A	327	13
TIAN-SHAN	369820	41.88	78.23	8	291	11
TOKMAK	369110	42.83	75.28	4A	452	18
Latvia (LTV)						
AINAZI	262290	57.87	24.37	6A	633	25
DAUGAVPILS	265440	55.87	26.62	6A	631	25
GULBENE	263480	57.13	26.72	6A	665	26
KOLKA	263130	57.75	22.60	6A	613	24
LIEPAJA	264060	56.48	21.02	6A	673	26
MERSRAGS	263240	57.35	23.12	6A	641	25
REZEKNE	264460	56.53	27.27	6A	614	24
RIGA	264220	56.97	24.05	6A	654	26
RIGA	264225	56.92	23.97	6A	654	26
VALGA	262470	57.78	26.03	6A	680	27
Lebanon (LBN)						
BEYROUTH (AEROPORT)	401000	33.82	35.48	2A	784	31
Libya (LBY)						
AGEDABIA	620550	30.72	20.17	2B	152	6
BENINA	620530	32.10	20.27	2B	258	10
MISURATA	620160	32.42	15.05	2B	277	11
SIRTE	620190	31.20	16.58	2B	180	7
TRIPOLI INTERNATION	620100	32.70	13.08	2B	301	12
ZUARA	620070	32.88	12.08	2B	243	10
Liechtenstein (LIE)						
VADUZ (LIECHTENSTEIN)	069900	47.13	9.52	5A	1300	51
Lithuania (LTU)						
BIRZAI	265310	56.20	24.77	6A	608	24
KAUNAS	266290	54.88	23.83	6A	632	25
KLAIPEDA	265090	55.73	21.07	5A	720	28
LAUKUVA	265180	55.62	22.23	6A	801	32
SIAULIAI	265240	55.93	23.32	6A	595	23
UTENA	266330	55.53	25.60	6A	664	26
VILNIUS	267300	54.63	25.28	6A	672	26
Luxembourg (LUX)						
LUXEMBOURG/LUXEMBOU	065900	49.62	6.22	5A	835	33
Macedonia (MKD)						
BITOLA	135830	41.05	21.37	4A	623	25
KRIVA PALANKA	134930	42.20	22.33	5A	586	23
OHRID	135780	41.12	20.80	4A	749	29
SKOPJE- AIRPORT	135860	41.97	21.65	4A	513	20
Macao (MAC)						
TAIPA GRANDE	450110	22.15	113.60	2A	1958	77
Madagascar (MDG)						
ANTANANARIVO/IVATO	670830	–18.80	47.48	3A	1438	57
MAHAJANGA	670270	–15.67	46.35	0A	1429	56
TOAMASINA	670950	–18.12	49.40	1A	3287	129
Malaysia (MYS)						
BINTULU	964410	3.20	113.03	0A	3811	150
KOTA BHARU	486150	6.17	102.28	0A	2627	103
KOTA KINABALU	964710	5.93	116.05	0A	2603	102
KUALA LUMPUR SUBANG	486470	3.12	101.55	0A	2473	97

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KUANTAN	486570	3.78	103.22	0A	2981	117
KUCHING	964130	1.48	110.33	0A	4215	166
LABUAN	964650	5.30	115.25	0A	3388	133
MALACCA	486650	2.27	102.25	0A	1940	76
MIRI	964490	4.33	113.98	0A	2847	112
PENANG/BAYAN LEPAS	486010	5.30	100.27	0A	2387	94
SANDAKAN	964910	5.90	118.07	0A	3224	127
SIBU	964210	2.33	111.83	0A	3389	133
SITIAWAN	486200	4.22	100.70	0A	1726	68
TAWAU	964810	4.27	117.88	0A	2218	87
Maldives (MDV)						
MALE	435550	4.20	73.53	0A	1493	59
Mali (MLI)						
BAMAKO/SENOU	612910	12.53	–7.95	0A	944	37
Malta (MLT)						
LUQA	165970	35.85	14.48	3A	517	20
Marshall Islands (MHL)						
KWAJALEIN MISSLE RAN	913660	8.72	167.73	0A	2533	100
MAJURO WSO AP	913760	7.08	171.38	0A	3321	131
Martinique (MTQ)						
LE LAMENTIN	789250	14.60	–61.00	0A	1110	44
Mauritania (MRT)						
NOUADHIBOU	614150	20.93	–17.03	2B	17	1
NOUAKCHOTT	614420	18.10	–15.95	1B	87	3
Mauritius (MUS)						
AGALEGA	619740	–10.43	56.75	0A	1153	45
PLAISANCE (MAURITIUS)	619900	–20.43	57.68	1A	1069	42
RODRIGUES	619880	–19.68	63.42	1A	1027	40
VACOAS (MAURITIUS)	619950	–20.30	57.50	2A	1069	42
Mayotte (MYT)						
DZAOUDZI/PAMANZI	670050	–12.80	45.28	0A	971	38
Mexico (MEX)						
AEROP. INTERNACIONA	766790	19.43	–99.13	3A	764	30
AEROP.INTERNACIONAL	766440	20.98	–89.65	0A	935	37
CANCUN INTL	765906	21.03	–86.87	0A	1283	51
DE GUANAJUATO INTL	765773	20.98	–101.48	2A	698	27
DON MIGUEL Y HIDALG	766133	20.52	–103.30	3A	944	37
GENERAL ABELARDO L	760013	32.53	–116.97	3B	338	13
GENERAL FRANCISCO J	765493	22.28	–97.87	1A	969	38
GENERAL HERIBERTO J	766913	19.13	–96.18	1A	1755	69
GENERAL JUAN N ALVA	768056	16.75	–99.75	0A	1428	56
GENERAL LEOBARDO C	765255	22.88	–102.68	3C	391	15
GENERAL MARIANO ESC	763943	25.77	–100.10	2B	637	25
GENERAL RAFAEL BUEL	764593	23.15	–106.27	1A	943	37
GUANAJUATO	765770	21.00	–101.28	3A	698	27
LICENCIADO ADOLFO L	766753	19.33	–99.57	3A	845	33
LICENCIADO BENITO J	766793	19.43	–99.07	3A	848	33
LICENCIADO GUSTAVO	766013	20.67	–105.25	1A	1092	43
MAZATLAN/G.BUELNA I	764594	23.15	–106.25	1A	968	38
MONTERREY (CITY)	763930	25.73	–100.30	2B	637	25
PUERTO VALLARTA	766014	20.68	–105.25	1A	1092	43
SAN LUIS POTOSI	765390	22.18	–100.98	3B	401	16
TAMPICO/GEN FJ MINA	765494	22.28	–97.85	1A	969	38
VERACRUZ/GEN JARA	766910	19.15	–96.18	1A	1755	69

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Micronesia, Federated States of (FSM)						
CHUUK WSO AP	913340	7.45	151.83	0A	3523	139
POHNPEI WSO	913480	6.97	158.22	0A	4670	184
YAP ISLAND WSO AP	914130	9.48	138.08	0A	3089	122
Moldova (MDA)						
KISINEV	338150	47.02	28.98	5A	543	21
Mongolia (MNG)						
ALTAI	442770	46.40	96.25	8	170	7
ARVAIHEER	442880	46.27	102.78	7	231	9
BAITAG	442650	46.12	91.47	7	87	3
BARUUNHARAA	442410	48.92	106.07	7	290	11
BARUUNTURUUN	442130	49.65	94.40	8	215	8
BARUUN-URT	443050	46.68	113.28	7	183	7
BAYANBULAG	442750	46.83	98.08	8	134	5
BAYANDELGER	443520	45.73	112.37	7	195	8
BAYANHONGOR	442870	46.13	100.68	7	209	8
BAYAN-OVOO	443020	47.78	112.12	7	283	11
BULGAN	442390	48.80	103.55	7	313	12
CHOIBALSAN	442590	48.08	114.55	7	100	4
CHOIR	442980	46.45	108.22	7	170	7
DALANZADGAD	443730	43.58	104.42	7	121	5
DASHBALBAR	442560	49.55	114.40	7	318	13
ERDENEMANDAL	442370	48.53	101.38	7	281	11
GALUUT	442840	46.70	100.13	8	210	8
HATGAL	442070	50.43	100.15	8	277	11
HOVD	442180	48.02	91.57	7	114	4
HUJIRT	442850	46.90	102.77	7	295	12
HUTAG	442320	49.38	102.70	7	141	6
KHALKH-GOL	443130	47.62	118.62	7	299	12
MAANTI	442940	47.30	107.48	8	224	9
MANDALGOBI	443410	45.77	106.28	7	141	6
MATAD	443140	47.17	115.63	7	233	9
MUREN	442310	49.63	100.17	7	235	9
OMNO-GOBI	442150	49.02	91.72	7	125	5
RINCHINLHUMBE	442030	51.12	99.67	8	269	11
SAIKHAN-OVOO	443360	45.45	103.90	7	123	5
SAINSHAND	443540	44.90	110.12	7	111	4
TARIALAN	442300	49.57	102.00	7	297	12
TOSONTSENGEL	442250	48.73	98.20	8	206	8
TSETSERLEG	442820	47.45	101.47	7	330	13
TSOGT-OVOO	443470	44.42	105.32	7	95	4
ULAANBAATAR	442920	47.92	106.87	7	298	12
ULAANGOM	442120	49.80	92.08	8	132	5
ULGI	442140	48.93	89.93	7	107	4
ULIASTAI	442720	47.75	96.85	8	203	8
UNDERKHAAN	443040	47.32	110.63	7	249	10
ZAMYN-UUD	443580	43.73	111.90	7	119	5
Morocco (MAR)						
AGADIR	602500	30.38	–9.57	3B	255	10
AGADIR AL MASSIRA	602520	30.32	–9.40	2B	234	9
AL HOCEIMA	601070	35.18	–3.85	3B	328	13
BENI-MELLAL	601910	32.37	–6.40	3A	419	16
CASABLANCA	601550	33.57	–7.67	3A	428	17

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ERRACHIDIA	602100	31.93	–4.40	2B	141	6
ESSAOUIRA	602200	31.52	–9.78	3C	303	12
FES-SAIS	601410	33.93	–4.98	3A	532	21
MARRAKECH	602300	31.62	–8.03	2B	245	10
MEKNES	601500	33.88	–5.53	3A	581	23
MIDELT	601950	32.68	–4.73	3B	212	8
NADOR-AROUI	603400	34.98	–3.02	3B	358	14
NOUASSEUR	601560	33.37	–7.58	3A	381	15
OUARZAZATE	602650	30.93	–6.90	2B	88	3
OUJDA	601150	34.78	–1.93	3B	335	13
RABAT-SALE	601350	34.05	–6.77	3A	563	22
SAFI	601850	32.28	–9.23	3A	388	15
TANGER (AERODROME)	601010	35.73	–5.90	3A	750	30
TAZA	601270	34.22	–4.00	3A	681	27
TETUAN/SANIA RAMEL	603180	35.58	–5.33	3A	684	27
Mozambique (MOZ)						
MAPUTO/MAVALANE	673410	–25.92	32.57	2A	791	31
Namibia (NAM)						
WALVIS BAY (PELICAN BAY)	681040	–22.88	14.43	3C	12	0
WINDHOEK	681100	–22.57	17.10	2B	354	14
Netherlands (NLD)						
AMSTERDAM AP SCHIPH	062400	52.30	4.77	5A	829	33
DE BILT	062600	52.10	5.18	5A	818	32
DE KOOY	062350	52.92	4.78	5A	768	30
DEELEN	062750	52.07	5.88	5A	858	34
EINDHOVEN	063700	51.45	5.42	5A	796	31
F3-FB-1	062390	54.85	4.70	5A	956	38
GILZE RIJEN	063500	51.57	4.93	5A	806	32
GRONINGEN AP EELDE	062800	53.13	6.58	5A	791	31
HERWIJNEN AWS	063560	51.87	5.15	4A	801	32
HOEK VAN HOLLAND	063300	51.98	4.10	4A	818	32
HOOGEVEEN	062790	52.75	6.52	5A	807	32
HOUTRIB	062680	52.53	5.43	5A	810	32
HUPSEL AWS	062830	52.07	6.65	5A	795	31
IJMUIDEN	062250	52.47	4.57	4A	816	32
K13-A	062520	53.22	3.22	4A	865	34
LEEUWARDEN	062700	53.22	5.77	5A	808	32
LELYSTAD AWS	062690	52.45	5.53	5A	832	33
MAASTRICHT AP ZUID	063800	50.92	5.78	5A	773	30
MARKNESSE AWS	062730	52.70	5.88	5A	796	31
NIEUW BEERTA AWS	062860	53.20	7.15	5A	747	29
ROTTERDAM AP ZESTIE	063440	51.95	4.45	5A	829	33
SOESTERBERG	062650	52.13	5.28	5A	818	32
TERSCHELLING(LGT-H)	062500	53.37	5.22	5A	956	38
TWENTHE	062900	52.27	6.90	5A	786	31
VALKENBURG	062100	52.18	4.42	5A	838	33
VLIELAND	062420	53.25	4.92	4A	783	31
VLISSINGEN	063100	51.45	3.60	4A	743	29
VOLKEL	063750	51.65	5.70	5A	758	30
WILHELMINADORP AWS	063230	51.53	3.90	4A	778	31
WOENSDRECHT	063400	51.45	4.33	4A	796	31
New Caledonia (NCL)						
ILE SURPRISE	915700	–18.48	163.08	1A	1088	43

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KOUMAC (NLLE-CALEDONIE)	915770	–20.57	164.28	2A	1036	41
LA ROCHE (ILE MARE)	915870	–21.48	168.03	2A	1332	52
LA TONTOUTA (NLLE-CALEDONIE)	915900	–22.02	166.22	2A	951	37
MATTHEW (ILOT)	915980	–22.33	171.33	2A	1245	49
MOUE (ILE DES PINS)	915960	–22.60	167.45	2A	1168	46
NOUMEA (NLLE-CALEDONIE)	915920	–22.27	166.45	2A	1047	41
OUANAHAM (ILE LIFOU)	915820	–20.77	167.23	2A	1694	67
OULOUP (ILE OUVEA)	915790	–20.65	166.58	1A	1321	52
POINDIMIE (NLLE-CAL)	915830	–20.93	165.32	1A	2565	101
New Zealand (NZL)						
AUCKLAND AERO AWS	931100	–37.00	174.80	3A	1140	45
AUCKLAND AIRPORT	931190	–37.02	174.80	3A	1140	45
CAMPBELL ISLAND AWS	939470	–52.55	169.15	6A	1342	53
CAPE CAMPBELL AWS	935970	–41.73	174.20	4A	690	27
CAPE REINGA AWS	930040	–34.43	172.68	3A	975	38
CASTLEPOINT	934980	–40.90	176.23	3A	881	35
CHATHAM ISLANDS AWS	939870	–43.95	–176.57	4A	870	34
CHRISTCHURCH	937800	–43.48	172.55	4A	584	23
CHRISTCHURCH AERO A	937810	–43.48	172.52	4A	614	24
ENDERBY ISLAND AWS	939290	–50.48	166.30	5A	1029	41
FAREWELL SPIT AWS	935270	–40.55	173.00	3A	1665	66
GISBORNE AERODROME	932920	–38.65	177.98	3A	1032	41
HAAST AWS	937090	–43.87	169.00	4A	3012	119
HICKS BAY AWS	931960	–37.55	178.30	3A	1460	57
HOKITIKA AERODROME	936150	–42.72	170.98	4A	2795	110
INVERCARGILL AERODR	938440	–46.42	168.32	5A	1088	43
INVERCARGILL AIRPOR	938450	–46.42	168.33	5A	1088	43
KAIKOURA	936780	–42.42	173.70	4A	729	29
KAITAIA	930120	–35.10	173.27	3A	1338	53
MOKOHINAU AWS	930690	–35.90	175.10	3A	956	38
NAPIER AERODROME AW	933730	–39.45	176.85	3A	800	31
NELSON AERODROME AW	935460	–41.28	173.23	4A	1092	43
NEW PLYMOUTH AWS	933090	–39.02	174.18	3A	1439	57
PALMERSTON NORTH AW	934040	–40.32	175.60	4A	934	37
PARAPARAUMU AWS	934200	–40.90	174.98	3A	979	39
PURERUA	930230	–35.12	174.02	3A	1175	46
PUYSEGUR POINT AWS	938050	–46.17	166.63	4A	2428	96
QUEENSTOWN AERODROM	938310	–45.02	168.73	5A	988	39
RAOUL ISLAND (AUT)	939940	–29.25	–177.92	3A	1468	58
SECRETARY ISLAND AW	938000	–45.22	166.88	4A	3712	146
SOUTH WEST CAPE AWS	939090	–47.27	167.45	4A	1200	47
TAIAROA HEAD	938960	–45.77	170.73	4A	707	28
TAUPO AWS	932450	–38.73	176.07	4A	1009	40
TAURANGA AERO AWS	931860	–37.67	176.20	3A	1238	49
TIMARU AERODROME AW	937730	–44.30	171.23	4A	587	23
WAIOURU AWS	933340	–39.47	175.68	5A	1782	70
WELLINGTON AIRPORT	934360	–41.33	174.80	3A	1056	42
WESTPORT AERODROME	935150	–41.73	171.57	4A	1843	73
Nicaragua (NIC)						
MANAGUA A.C.SANDINO	787410	12.15	–86.17	0A	1107	44
Niger (NER)						
AGADEZ	610240	16.97	7.97	0B	117	5
BIRNI-NKONNI	610750	13.80	5.25	0B	482	19

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
GAYA	610990	11.88	3.45	0B	791	31
GOURE	610450	13.98	10.30	0B	282	11
MAGARIA	610910	12.98	8.93	0B	545	21
MAINE-SOROA	610960	13.23	11.98	0B	350	14
MARADI	610800	13.47	7.08	0B	490	19
NGUIGMI	610490	14.25	13.12	0B	191	8
NIAMEY-AERO	610520	13.48	2.17	0B	539	21
TAHOUA	610430	14.90	5.25	0B	369	15
TILLABERY	610360	14.20	1.45	0B	399	16
ZINDER	610900	13.78	8.98	0B	411	16
Niue (NIU)						
ALOFI	918220	–19.07	–169.92	1A	2083	82
Norfolk Island (NFK)						
NORFOLK ISLAND AERO	949960	–29.03	167.93	3A	1267	50
North Mariana Islands (MNP)						
SAIPAN	912320	15.12	145.70	0A	1310	52
Norway (NOR)						
ALTA LUFTHAVN	010490	69.98	23.37	7	419	16
ANDOYA	010100	69.30	16.13	7	1117	44
BANAK	010590	70.07	24.98	7	431	17
BARDUFOSS	010230	69.07	18.53	7	848	33
BERGEN/FLESLAND	013110	60.28	5.23	6A	2026	80
BERGEN/FLORIDA	013170	60.38	5.33	5A	2199	87
BODO VI	011520	67.27	14.37	6A	1050	41
EKOFISK OIL PLTFRM	014033	56.55	3.25	5C	1102	43
FAGERNES	013670	60.98	9.23	7	586	23
FERDER FYR	014820	59.03	10.53	5A	897	35
FOKSTUA II	012380	62.12	9.28	7	457	18
FRUHOLMEN FYR	010550	71.10	24.00	7	613	24
GEILO-GEILOSTOLEN	013640	60.52	8.22	7	754	30
GULLFAX (PLATFORM)	013755	61.03	2.03	5A	1595	63
HAMMERFEST	010520	70.67	23.67	7	772	30
JAN MAYEN	010010	70.93	–8.67	7	677	27
KAUTOKEINO	010470	69.00	23.03	8	409	16
KIRKENES	010890	69.73	29.90	7	458	18
KONGSBERG IV	014770	59.67	9.65	6A	973	38
KRISTIANSAND/KJEVIK	014520	58.20	8.08	6A	1312	52
LISTA FYR	014270	58.12	6.57	5A	1834	72
LYNGOR FYR	014670	58.63	9.15	5A	1140	45
MYKEN	011150	66.77	12.48	6A	1310	52
OKSOY FYR	014480	58.07	8.05	5A	1312	52
ORLAND III	012410	63.70	9.60	6A	1021	40
OSLO/FORNEBU	014880	59.90	10.62	6A	772	30
OSLO/GARDERMOEN	013840	60.20	11.08	6A	865	34
OSLO-BLINDERN	014920	59.95	10.72	6A	772	30
RENA-HAUGEDALEN	013890	61.17	11.45	7	740	29
RYGGE	014940	59.38	10.78	6A	866	34
SKLINNA FYR	011020	65.20	11.00	6A	1307	51
SKROVA FYR	011600	68.15	14.65	6A	2304	91
SLATTEROY FYR	014060	59.92	5.07	5A	1750	69
SLETTNES FYR	010780	71.10	28.22	7	605	24
SORTLAND	011670	68.70	15.42	7	1471	58
STAVANGER/SOLA	014150	58.88	5.63	5A	1187	47

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
SULA	012280	63.85	8.47	6A	1138	45
SVINOY FYR	012050	62.33	5.27	5A	1557	61
TAFJORD	012180	62.23	7.42	5A	1143	45
TORSVAG FYR	010330	70.25	19.50	6A	968	38
TROMSO/LANGNES	010250	69.68	18.92	7	973	38
TRONDHEIM/VERNES	012710	63.47	10.93	6A	971	38
TVEITSUND	014550	59.03	8.52	6A	1036	41
UTSIRA FYR	014030	59.30	4.88	5A	1584	62
VARDO	010980	70.37	31.10	7	571	22
Oman (OMN)						
BURAIMI	412440	24.23	55.78	0B	89	3
FAHUD	412620	22.33	56.48	0B	52	2
MASIRAH	412880	20.67	58.90	0B	33	1
SALALAH	413160	17.03	54.08	1B	74	3
SEEB INTL AIRPORT	412560	23.58	58.28	0B	87	3
SOHAR MAJIS	412460	24.47	56.63	0B	108	4
SUR	412680	22.53	59.47	0B	95	4
THUMRAIT	413140	17.67	54.02	0B	67	3
Pakistan (PAK)						
ISLAMABAD AIRPORT	415710	33.62	73.10	2A	1054	41
KARACHI AIRPORT	417800	24.90	67.13	0B	213	8
LAHORE AIRPORT	416410	31.52	74.40	1B	550	22
Palau (PLW)						
KOROR WSO	914080	7.33	134.48	0A	3753	148
Palestinian Territory, Occupied (PSE)						
JERUSALEM AIRPORT	402900	31.87	35.22	3A	590	23
Panama (PAN)						
MARCOS A GELABERT I	783842	8.97	–79.55	0A	1799	71
TOCUMEN	787920	9.05	–79.37	0A	2154	85
Paraguay (PRY)						
ASUNCION/AEROPUERTO	862180	–25.25	–57.52	2A	1401	55
VILLARRICA	862330	–25.75	–56.43	2A	1598	63
Peru (PER)						
AREQUIPA	847520	–16.33	–71.57	3C	87	3
CHICLAYO	844520	–6.78	–79.82	2B	19	1
CUZCO	846860	–13.53	–71.93	4A	664	26
IQUITOS	843770	–3.78	–73.30	0A	2858	113
LIMA-CALLAO/AEROP.	846280	–12.00	–77.12	2B	17	1
PISCO	846910	–13.73	–76.22	2B	10	0
PIURA	844010	–5.20	–80.60	1B	43	2
PUCALLPA	845150	–8.37	–74.57	0A	1603	63
SAN JUAN	847210	–15.38	–75.17	2B	4	0
TACNA	847820	–18.05	–70.27	3B	18	1
TALARA	843900	–4.57	–81.23	2B	10	0
TRUJILLO	845010	–8.08	–79.10	2B	29	1
TUMBES	843700	–3.55	–80.40	1B	438	17
Philippines (PHL)						
BAGUIO	983280	16.42	120.60	2A	3686	145
CAGAYAN DE ORO	987480	8.48	124.63	0A	1667	66
CALAPAN	984310	13.42	121.18	0A	1885	74
CATANDUANES RADAR	984470	13.98	124.32	1A	3343	132
CATBALOGAN	985480	11.78	124.88	0A	2555	101
CLARK AB	983270	15.17	120.57	0A	2059	81

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CUBI POINT NF	984260	14.80	120.27	0A	3685	145
DAET	984400	14.13	122.98	0A	3563	140
DAGUPAN	983250	16.05	120.33	0A	2429	96
DAVAO AIRPORT	987530	7.12	125.65	0A	1805	71
DUMAGUETE	986420	9.30	123.30	0A	1215	48
GEN. SANTOS	988510	6.12	125.18	0A	1044	41
IBA	983240	15.33	119.97	0A	3802	150
ILOILO	986370	10.70	122.57	0A	2024	80
INFANTA	984340	14.75	121.65	0A	3937	155
LAOAG	982230	18.18	120.53	0A	2226	88
LEGASPI	984440	13.13	123.73	0A	2618	103
LUMBIA AIRPORT	987470	8.43	124.28	0A	1888	74
MACTAN	986460	10.30	123.97	0A	1607	63
MALAYBALAY	987510	8.15	125.08	1A	2580	102
MANILA	984250	14.58	120.98	0A	2134	84
MASBATE	985430	12.37	123.62	0A	1793	71
MUNOZ	983290	15.72	120.90	0A	1942	76
NINOY AQUINO INTERN	984290	14.52	121.00	0A	2134	84
PUERTO PRINCESA	986180	9.75	118.73	0A	1541	61
ROXAS	985380	11.58	122.75	0A	1990	78
SAN JOSE	985310	12.35	121.03	0A	2352	93
SANGLEY POINT	984280	14.50	120.92	0A	1907	75
SCIENCE GARDEN	984300	14.63	121.02	0A	2134	84
SINAIT	982220	17.88	120.45	0A	2478	98
TACLOBAN	985500	11.25	125.00	0A	2241	88
TAGBILARAN	986440	9.60	123.85	0A	1411	56
TAYABAS	984270	14.03	121.58	1A	2439	96
ZAMBOANGA	988360	6.90	122.07	0A	1221	48
Poland (POL)						
BIALYSTOK	122950	53.10	23.17	6A	594	23
BIELSKO-BIALA	126000	49.80	19.00	5A	892	35
CHOJNICE	122350	53.72	17.55	5A	563	22
CZESTOCHOWA	125500	50.82	19.10	5A	620	24
ELBLAG	121600	54.17	19.43	5A	681	27
GDANSK-REBIECHOWO	121500	54.38	18.47	6A	551	22
GDANSK-SWIBNO	121550	54.33	18.93	5A	562	22
GORZOW WLKP	123000	52.75	15.28	5A	547	22
HEL	121350	54.60	18.82	5A	556	22
JELENIA GORA	125000	50.90	15.80	5A	861	34
KALISZ	124350	51.78	18.08	5A	517	20
KASPROWY WIERCH	126500	49.23	19.98	7	1151	45
KATOWICE	125600	50.23	19.03	5A	750	30
KETRZYN	121850	54.07	21.37	6A	598	24
KIELCE	125700	50.82	20.70	6A	620	24
KLODZKO	125200	50.43	16.62	5A	775	31
KOLO	123450	52.20	18.67	5A	525	21
KOLOBRZEG	121000	54.18	15.58	5A	668	26
KOSZALIN	121050	54.20	16.15	5A	708	28
KOZIENICE	124880	51.57	21.55	5A	567	22
KRAKOW	125660	50.08	19.80	5A	696	27
LEBA	121200	54.75	17.53	5A	654	26
LEBORK	121250	54.55	17.75	5A	655	26
LEGNICA	124150	51.20	16.20	5A	629	25

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
LESKO	126900	49.47	22.35	5A	960	38
LESZNO	124180	51.83	16.53	5A	544	21
LODZ	124650	51.73	19.40	5A	565	22
LUBLIN RADAWIEC	124950	51.22	22.40	5A	580	23
MIKOLAJKI	122800	53.78	21.58	5A	596	23
MLAWA	122700	53.10	20.35	5A	567	22
NOWY SACZ	126600	49.62	20.70	5A	775	31
OLSZTYN	122720	53.77	20.42	6A	642	25
OPOLE	125300	50.80	17.97	5A	580	23
OSTROLEKA	122850	53.08	21.57	5A	569	22
PILA	122300	53.13	16.75	5A	564	22
PLOCK	123600	52.58	19.73	5A	534	21
POZNAN	123300	52.42	16.85	5A	521	21
PRZEMYSL	126950	49.80	22.77	5A	676	27
RACIBORZ	125400	50.05	18.20	5A	635	25
RESKO	122100	53.77	15.42	5A	666	26
RZESZOW-JASIONKA	125800	50.10	22.05	5A	655	26
SANDOMIERZ	125850	50.70	21.72	5A	581	23
SIEDLCE	123850	52.25	22.25	5A	541	21
SNIEZKA	125100	50.73	15.73	7	996	39
SULEJOW	124690	51.35	19.87	5A	564	22
SUWALKI	121950	54.13	22.95	6A	594	23
SWINOUJSCIE	122000	53.92	14.23	5A	567	22
SZCZECIN	122050	53.40	14.62	5A	535	21
SZCZECINEK	122150	53.72	16.68	5A	613	24
TARNOW	125750	50.03	20.98	5A	719	28
TERESPOL	123990	52.07	23.62	5A	601	24
TORUN	122500	53.05	18.58	5A	538	21
USTKA	121150	54.58	16.87	5A	698	27
WARSZAWA-OKECIE	123750	52.17	20.97	5A	523	21
WIELUN	124550	51.22	18.57	5A	606	24
WLODAWA	124970	51.55	23.53	5A	552	22
WROCLAW II	124240	51.10	16.88	5A	577	23
ZAKOPANE	126250	49.30	19.97	6A	1120	44
ZAMOSC	125950	50.70	23.25	5A	603	24
ZIELONA GORA	124000	51.93	15.53	5A	594	23
Portugal (PRT)						
BEJA	085620	38.02	–7.87	3A	583	23
BRAGANCA	085750	41.80	–6.73	4C	735	29
CASTELO BRANCO	085700	39.83	–7.48	3A	779	31
COIMBRA	085490	40.20	–8.42	3A	998	39
EVORA	085570	38.57	–7.90	3A	638	25
EVORA/C. COORD	085580	38.53	–7.90	3A	638	25
FARO/AEROPORTO	085540	37.02	–7.97	3A	502	20
FLORES (ACORES)	085010	39.45	–31.13	3A	986	39
FUNCHAL	085220	32.63	–16.90	2A	607	24
FUNCHAL/S.CATARINA	085210	32.68	–16.77	3A	398	16
HORTA/CASTELO BRANC	085050	38.52	–28.72	3A	799	31
LAJES (ACORES)	085090	38.77	–27.10	3A	1154	45
LISBOA/PORTELA	085360	38.77	–9.13	3A	713	28
PONTA DELGADA/NORDE	085120	37.73	–25.70	3C	1025	40
PORTALEGRE	085710	39.28	–7.42	3A	881	35
PORTO SANTO	085240	33.07	–16.35	3B	376	15

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
PORTO/PEDRAS RUBRAS	085450	41.23	–8.68	3C	1252	49
SAGRES	085380	37.00	–8.95	3C	461	18
SANTA MARIA (ACORES)	085150	36.97	–25.17	3A	742	29
SINES/MONTES CHAOS	085410	37.95	–8.87	3C	551	22
VIANA DO CASTELO	085430	41.70	–8.80	3C	1422	56
VILA REAL	085660	41.32	–7.73	4C	1112	44
VILA REAL	085670	41.27	–7.72	4C	1112	44
VISEU	085600	40.72	–7.88	4C	1255	49
Qatar (QAT)						
DOHA INTERNATIONAL	411700	25.25	51.57	0B	72	3
Reunion (REU)						
SAINT-DENIS/GILLOT	619800	–20.88	55.52	1A	1523	60
Romania (ROU)						
ARAD	152000	46.13	21.35	5A	592	23
BACAU	151500	46.53	26.92	5A	546	22
BAIA MARE	150140	47.67	23.50	5A	854	34
BARLAD	151970	46.23	27.65	5A	514	20
BISTRITA	150850	47.15	24.50	5A	706	28
BLAJ	152090	46.18	23.93	5A	552	22
BOTOSANI	150200	47.73	26.65	5A	571	22
BUCURESTI AFUMATI	154210	44.48	26.18	5A	612	24
BUCURESTI INMH-BANE	154200	44.48	26.12	5A	612	24
BUZAU	153500	45.13	26.85	4A	521	20
CALAFAT	154820	43.98	22.95	4A	544	21
CALARASI	154600	44.20	27.33	4A	492	19
CARANSEBES	152920	45.42	22.25	5A	906	36
CEAHLAU TOACA	151080	46.98	25.95	7	627	25
CLUJ-NAPOCA	151200	46.78	23.57	5A	584	23
CONSTANTA	154800	44.22	28.65	4A	422	17
CRAIOVA	154500	44.32	23.87	4A	584	23
DEVA	152300	45.87	22.90	5A	596	23
DROBETA TURNU SEVER	154100	44.63	22.63	4A	668	26
FAGARAS	152350	45.83	24.93	5A	713	28
FETESTI	154440	44.37	27.85	4A	454	18
GALATI	153100	45.48	28.03	5A	485	19
GIURGIU	154910	43.88	25.95	4A	583	23
GRIVITA	154050	44.75	27.30	5A	475	19
IASI	150900	47.17	27.63	5A	587	23
INTORSURA BUZAULUI	152610	45.68	26.02	6A	659	26
JURILOVCA	154090	44.77	28.88	4A	398	16
KOGALNICEANU	154810	44.33	28.43	4A	420	17
MANGALIA	154990	43.82	28.58	4A	405	16
MIERCUREA CIUC	151700	46.37	25.73	6A	566	22
ORADEA	150800	47.03	21.90	5A	596	23
ORAVITA	153380	45.03	21.68	4A	759	30
PETROSANI	152960	45.42	23.38	5A	812	32
PLOIESTI	153770	44.95	26.00	5A	620	24
PREDEAL	153020	45.50	25.58	6A	950	37
RARAU (MONASTERY)	150520	47.45	25.57	7	789	31
RIMNICU VALCEA	153460	45.10	24.37	4A	722	28
ROMAN	151110	46.97	26.92	5A	505	20
ROSIORI DE VEDE	154700	44.10	24.98	4A	534	21
SATU MARE	150100	47.72	22.88	5A	594	23

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
SIBIU	152600	45.80	24.15	5A	651	26
SIGHETUL MARMATIEI	150040	47.93	23.92	5A	820	32
SUCEAVA	150230	47.63	26.25	5A	595	23
SULINA	153600	45.17	29.73	4B	270	11
TARGOVISTE	153750	44.93	25.43	5A	663	26
TG. JIU	153400	45.03	23.27	5A	806	32
TG. MURES	151450	46.53	24.53	5A	601	24
TIMISOARA	152470	45.77	21.25	4A	611	24
TR. MAGURELE	154900	43.75	24.88	4A	547	22
TULCEA	153350	45.18	28.82	4A	434	17
VARFU OMU	152800	45.45	25.45	8	935	37
ZALAU	150630	47.18	23.08	5A	643	25
Russian Federation (RUS)						
ABAKAN	298650	53.75	91.40	7	324	13
ACINSK	294670	56.28	90.50	7	422	17
ADLER	371710	43.43	39.90	4A	1559	61
AGATA	233830	66.88	93.47	8	464	18
AGINSKOE	296760	55.25	94.88	7	461	18
AGINSKOE	308590	51.10	114.52	8	371	15
AGZU	318250	47.60	138.40	7	663	26
AJAN	311680	56.45	138.15	8	887	35
AKJAR	350370	51.87	58.18	7	361	14
AKSA	309570	50.27	113.27	7	386	15
ALATYR`	276790	54.82	46.58	7	518	20
ALDAN	310040	58.62	125.37	8	676	27
ALEJSKAJA	299370	52.52	82.77	7	431	17
ALEKSANDROV-GAJ	343910	50.15	48.55	6A	316	12
ALEKSANDROVSKIJ ZAV	309710	50.92	117.93	8	399	16
ALEKSANDROVSKOE	239550	60.43	77.87	8	501	20
ALEKSANDROVSK-SAHAL	320610	50.90	142.17	7	622	24
AMDERMA	230220	69.75	61.70	8	380	15
AMGA	249620	60.90	131.98	8	256	10
ANADYR	255630	64.78	177.57	8	333	13
ANAPA	370010	44.88	37.28	4A	520	20
ANDREYA ISLAND	213010	76.80	110.83	8	210	8
ANTIPAJETA	230580	69.08	76.85	8	268	11
ANUCINO	319810	43.97	133.07	7	719	28
APUKA	259560	60.43	169.67	8	515	20
ARHANGELSK	225500	64.55	40.58	7	579	23
ARHARA	315940	49.42	130.08	7	640	25
ARKA	249880	60.08	142.33	8	446	18
ARMAVIR	370310	44.98	41.12	5A	572	23
ASTRAHAN	348800	46.28	48.05	5B	214	8
ASTRAHANKA	319210	44.72	132.07	7	582	23
ATKA	259020	60.85	151.77	8	328	13
B. PRONCHISHCHEVOY	214050	75.53	113.52	8	212	8
BABAEVO	270080	59.40	35.93	7	621	24
BABUSKIN	308220	51.72	105.85	7	523	21
BAEVO	298270	53.27	80.77	7	328	13
BAGDARIN	305540	54.47	113.58	8	378	15
BAJANDAJ	306270	53.10	105.53	8	375	15
BAKALY	286150	55.18	53.80	7	462	18
BAKCHAR	293280	57.08	81.92	7	464	18

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BALAGANSK	306120	54.00	103.07	8	326	13
BALASOV	341520	51.55	43.15	6A	500	20
BARABINSK	296120	55.33	78.37	7	377	15
BARENCBURG	201070	78.07	14.25	8	468	18
BARNAUL	298380	53.43	83.52	7	441	17
BATAMAJ	246560	63.52	129.48	8	293	12
BEJA	299620	53.05	90.92	7	399	16
BELOGORSK	315130	50.92	128.47	7	554	22
BELYJ	265850	55.85	32.95	6A	709	28
BEREZOVO	236310	63.93	65.05	8	526	21
BERINGOVSKAJA	256770	63.05	179.32	8	574	23
BEZECK	272170	57.80	36.70	7	541	21
BIJSK ZONALNAJA	299390	52.68	84.95	7	534	21
BIKIN	318320	46.80	134.27	7	645	25
BIRILIUSSY	293670	57.13	90.70	7	501	20
BIROBIDZHAN	317130	48.73	132.95	7	666	26
BIRSK	286210	55.42	55.53	7	580	23
BLAGOVESCENSK	315100	50.25	127.57	7	559	22
BODAJBO	302530	57.85	114.23	8	447	18
BOGORODSKOE	314390	52.38	140.47	8	504	20
BOGOTOL	295530	56.23	89.58	7	499	20
BOGUCANY	292820	58.38	97.45	8	339	13
BOGUCAR	343360	49.93	40.57	6A	514	20
BOL`SIE-UKI	284910	56.93	72.67	7	447	18
BOLOGOE	262980	57.90	34.05	7	629	25
BOLSHAJA MURTA	294710	56.90	93.13	7	413	16
BOLSHERECHE	285930	56.10	74.63	7	364	14
BOLSOJ SANTAR	311740	54.83	137.53	8	524	21
BOMNAK	312530	54.72	128.93	8	574	23
BOR	238840	61.60	90.02	8	588	23
BORZJA	309650	50.40	116.52	8	296	12
BRATOLJUBOVKA	315210	50.78	129.33	8	564	22
BRATSK	303090	56.28	101.75	8	374	15
BRJANSK	268980	53.25	34.32	6A	649	26
BUDENNOVSK	370610	44.78	44.13	5A	406	16
BUGULMA	287110	54.58	52.80	7	523	21
BUHTA PROVIDENJA	255940	64.42	–173.23	8	666	26
BUJ	272420	58.48	41.53	7	633	25
BURUKAN	313480	53.05	136.03	8	642	25
BUZULUK	289090	52.82	52.22	7	470	19
CAJVO	320360	52.37	143.18	8	683	27
CAPE BOLVANSKIJ	209460	70.45	59.07	8	256	10
CAPE KAMENNYJ	231460	68.47	73.60	8	389	15
CAPE MENSHIKOVA	209430	70.72	57.62	8	588	23
CAPE STERLEGOVA	204760	75.42	88.90	8	296	12
CAPE VASILEVA	322170	50.02	155.40	7	1240	49
CEKUNDA	315320	50.87	132.25	8	672	26
CELINA	347470	46.55	41.05	5A	546	21
CEMAL	360580	51.43	86.00	7	513	20
CENTRALNYJ RUDNIK	296540	55.22	87.65	7	951	37
CEREPOVEC	271130	59.25	37.97	7	667	26
CERLAK	287990	54.17	74.80	7	348	14
CERNUSKA	284280	56.50	56.13	7	559	22

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CHANY	296020	55.28	76.60	7	338	13
CHARA	303720	56.90	118.27	8	346	14
CHELJABINSK-BALANDI	286420	55.30	61.53	7	441	17
CHERDYN	239140	60.40	56.52	7	712	28
CHERNISHEVSKIJ	247240	63.03	112.50	8	337	13
CHERNJAEVO	313710	52.78	126.00	8	485	19
CHERSKIJ	251230	68.75	161.28	8	210	8
CHITA	307580	52.08	113.48	8	346	14
CHOKURDAH	219460	70.62	147.88	8	217	9
CJULBJU	311230	57.77	130.90	8	384	15
CUGUEVKA	319390	44.15	133.87	7	719	28
CULMAN	303930	56.83	124.87	8	530	21
CULYM	296250	55.10	80.97	7	379	15
CURAPCA	247680	62.03	132.60	8	245	10
DALNERECHENSK	318730	45.87	133.73	7	637	25
DEMJANSKOE	280760	59.60	69.28	7	534	21
DIVNOE	348580	45.92	43.35	5A	434	17
DUDINKA	230740	69.40	86.17	8	456	18
DUKI	314820	51.72	135.93	8	646	25
DUVAN	285370	55.70	57.90	7	515	20
DZALINDA	306950	53.47	123.90	8	471	19
DZARDZAN	241430	68.73	124.00	8	304	12
DZERZHINSKOE	294810	56.85	95.22	7	350	14
EGVEKINOT	253780	66.35	–179.12	8	389	15
EKATERINBURG	284400	56.83	60.63	7	511	20
EKATERINO-NIKOLSKOE	317070	47.73	130.97	7	625	25
EKIMCHAN	313290	53.07	132.98	8	693	27
ELABUGA	285060	55.77	52.07	7	544	21
ELAT`MA	276480	54.95	41.77	7	605	24
ELEC	279280	52.63	38.52	6A	579	23
ENISEJSK	292630	58.45	92.15	8	470	19
ERBOGACEN	248170	61.27	108.02	8	340	13
ERMAKOVSKOE	298690	53.30	92.42	7	528	21
EROFEJ PAVLOVIC	306830	53.97	121.93	8	419	16
ERSOV	341860	51.37	48.30	6A	393	15
GAJNY	239090	60.28	54.35	7	626	25
GAR	313840	52.57	129.07	8	574	23
GARI	280490	59.43	62.33	7	468	18
GLAZOV	282140	58.13	52.58	7	587	23
GMO IM.E.K. FEDOROV	202920	77.72	104.30	8	213	8
GORIN	314890	51.20	136.80	8	606	24
GORJACINSK	307310	52.98	108.28	7	400	16
GOR'KIJ	275530	56.22	43.82	7	606	24
GRIDINO	224220	65.90	34.77	7	429	17
GROSSEVICHI	318230	47.97	139.53	7	694	27
GROZNYJ	372350	43.35	45.68	5A	462	18
GUGA	314210	52.70	137.53	8	474	19
GVASJUGI	318010	47.67	136.18	7	915	36
HABAROVSK	317350	48.52	135.17	7	673	27
HADAMA	298920	53.95	98.82	8	529	21
HAKASSKAJA	298620	53.77	91.32	7	310	12
HANTY-MANSIJSK	239330	61.02	69.03	8	535	21
HATANGA	208910	71.98	102.47	8	283	11

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
HILOK	308440	51.35	110.47	8	380	15
HOLM	263780	57.15	31.18	6A	645	25
HOLMSK	321280	47.05	142.05	6A	795	31
HORINSK	307390	52.17	109.78	8	283	11
HOSEDA-HARD	232190	67.08	59.38	8	455	18
HULARIN	314840	51.42	135.08	7	605	24
ICA	324110	55.58	155.58	7	741	29
IDRINSKOE	297660	54.37	92.13	7	382	15
IGARKA	232740	67.47	86.57	8	494	19
IGNASINO	306860	53.47	122.40	8	421	17
IKEJ	305070	54.18	100.08	8	470	18
ILYINSKIY	321210	47.98	142.20	7	856	34
IM POLINY OSIPENKO	314160	52.42	136.50	8	471	19
IM. M.V. POPOVA	206670	73.33	70.05	8	206	8
IRBEJSKOE	295870	55.63	95.47	7	434	17
IRKUTSK	307100	52.27	104.32	7	475	19
ISIM	285730	56.10	69.43	7	377	15
ISIT	249510	60.82	125.32	8	290	11
IVDEL	239210	60.68	60.45	7	510	20
IZHEVSK	284110	56.83	53.45	7	527	21
JAKUTSK	249590	62.02	129.72	8	234	9
JALTUROVOSK	284650	56.68	66.35	7	423	17
JANAUL	284190	56.27	54.90	7	479	19
JARCEVO	239870	60.25	90.23	8	590	23
JARENSK	227980	62.17	49.12	7	599	24
JASKUL	348660	46.18	45.35	5B	249	10
JUBILEJNAJA	219310	70.77	136.22	8	245	10
JUR`EVEC	273550	57.33	43.12	7	600	24
JUZHNO-KURILSK	321650	44.02	145.87	6A	1238	49
JUZHNO-SAHALINSK	321500	46.95	142.72	7	863	34
KACUG	306220	53.97	105.90	8	310	12
KAJLASTUJ	309780	49.83	118.38	7	341	13
KALAC	342470	50.42	41.05	6A	486	19
KALACINSK	286960	55.03	74.58	7	340	13
KALAKAN	304690	55.12	116.77	8	395	16
KALEVALA	224080	65.22	31.17	7	533	21
KALININGRAD	267020	54.72	20.55	5A	796	31
KALUGA	277030	54.57	36.40	6A	642	25
KAMEN-NA-OBI	298220	53.82	81.27	7	330	13
KAMENSKOE	257440	62.43	166.08	8	413	16
KAMYSIN	343630	50.07	45.37	6A	378	15
KAMYSLOV	284510	56.85	62.72	7	459	18
KANDALAKSA	222170	67.15	32.35	7	509	20
KANIN NOS	221650	68.65	43.30	7	431	17
KANSK	295810	56.20	95.63	7	312	12
KARASUK	298140	53.70	78.07	7	299	12
KARGASOK	291220	59.05	80.95	8	449	18
KARGOPOL	228450	61.50	38.93	7	617	24
KAZACHINSK	303370	56.32	107.62	8	400	16
KAZAN	275950	55.60	49.28	7	532	21
KEDON	256210	64.00	158.92	8	274	11
KEM	225220	64.95	34.65	7	434	17
KEMCHUG	295620	56.10	91.67	7	507	20

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KEMEROVO	296420	55.23	86.12	7	465	18
KESTENGA	224030	65.88	31.83	7	540	21
KINGISEPP	260590	59.37	28.60	6A	686	27
KIRENSK	302300	57.77	108.07	8	383	15
KIROV	271960	58.65	49.62	7	613	24
KIROV	271990	58.60	49.63	7	613	24
KIROVSKIJ	318780	45.08	133.53	7	670	26
KIRS	280090	59.37	52.22	7	607	24
KJAHTA	309250	50.37	106.45	7	350	14
KJUSJUR	219210	70.68	127.40	8	343	14
KLJUCHI	323890	56.32	160.83	7	618	24
KLJUCI	360210	52.25	79.13	7	318	13
KOCHKI	297240	54.30	80.50	7	358	14
KOCUBEJ	370850	44.40	46.55	4B	243	10
KOJNAS	225830	64.75	47.65	7	609	24
KOLBA	296750	55.08	93.37	7	591	23
KOLPASEVO	292310	58.32	82.95	7	504	20
KOLYVAN	296310	55.30	82.75	7	411	16
KOMMUNAR	297590	54.33	89.28	7	860	34
KORF	259540	60.35	166.00	8	423	17
KOTEL`NIKOVO	346550	47.63	43.15	5A	402	16
KOTLAS	228870	61.23	46.72	7	538	21
KOZ`MODEM`JANSK	274790	56.33	46.58	7	586	23
KRASNODAR	349290	45.03	39.15	4A	702	28
KRASNOJARSK	295740	56.00	92.88	7	495	19
KRASNOJARSK OPYTNOE	295700	56.03	92.75	7	495	19
KRASNOOZERSK	298130	53.97	79.23	7	355	14
KRASNOSCELE	222350	67.35	37.05	8	519	20
KRASNOUFIMSK	284340	56.65	57.78	7	531	21
KRASNYE BAKI	273690	57.13	45.17	7	631	25
KRASNYJ CHIKOJ	309350	50.37	108.75	8	347	14
KRASNYJ JAR	318450	46.53	135.32	7	872	34
KRESCHENKA	295240	55.85	80.03	7	422	17
KUDYMKAR	281160	58.98	54.65	7	548	22
KUPINO	297060	54.37	77.28	7	308	12
KUR	316320	49.93	134.63	7	752	30
KURGAN	286610	55.47	65.40	7	380	15
KURSK	340090	51.77	36.17	6A	627	25
KYRA	309490	49.57	111.97	7	377	15
KYSTOVKA	294050	56.60	76.57	7	416	16
KYZYL	360960	51.72	94.50	8	233	9
LAKE TAJMYR	205940	74.50	102.50	8	227	9
LENSK	249230	60.72	114.88	8	375	15
LEUSI	280640	59.62	65.72	7	488	19
LJUBAN	260780	59.35	31.23	7	635	25
LOKSAK	312630	54.73	130.45	8	577	23
LOSINOBORSKOE	292530	58.43	89.37	8	553	22
LOVOZERO	221270	68.00	35.03	8	486	19
LUKOJANOV	276650	55.03	44.50	7	572	23
MAGADAN	259130	59.55	150.78	8	528	21
MAGDAGACI	312950	53.47	125.82	8	470	18
MAGNITOGORSK	288380	53.35	59.08	7	365	14
MAHACKALA	374720	43.02	47.48	4B	336	13

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MAJSK	292090	57.78	77.28	7	494	19
MAKUSINO	286660	55.25	67.30	7	366	14
MALYE KARMAKULY	207440	72.37	52.70	8	343	13
MAMA	301570	58.32	112.87	8	554	22
MARESALE	230320	69.72	66.80	8	258	10
MARIINSK	295510	56.22	87.75	7	441	17
MARKOVO	255510	64.68	170.42	8	397	16
MASLJANINO	297360	54.33	84.22	7	454	18
MATUA	322070	48.07	153.22	7	1321	52
MEDVEZEGORSK	227210	62.92	34.43	7	672	26
MELEUZ	289250	52.95	55.97	7	443	17
MEZEN	224710	65.87	44.22	7	509	20
MINERALNYE VODY	370540	44.23	43.07	5A	524	21
MOGOCA	306730	53.75	119.73	8	426	17
MONDY	308020	51.68	100.98	8	332	13
MOROZOVSK	345450	48.35	41.87	5A	414	16
MOSKVA	276120	55.83	37.62	6A	684	27
MOZDOK	371450	43.73	44.67	5A	531	21
MURMANSK	221130	68.97	33.05	7	473	19
MUZI	234260	65.38	64.72	8	514	20
MYS SHALAUROVA	216470	73.18	143.23	8	116	5
MYS SHMIDTA	251730	68.90	–179.37	8	248	10
MYS UELEN	253990	66.17	–169.83	8	377	15
MYS ZELANIJA	203530	76.85	68.55	8	314	12
NAGORNYJ	304930	55.97	124.88	8	568	22
NAJAHAN	258210	61.95	158.97	8	448	18
NAPAS	290230	59.85	81.95	8	569	22
NARJAN-MAR	232050	67.63	53.03	8	463	18
NAZYVOEVSK	285880	55.57	71.37	7	378	15
NELKAN	311520	57.67	136.15	8	407	16
NERCHINSKIJ ZAVOD	308790	51.32	119.62	8	438	17
NIKOL`SK	270660	59.53	45.47	7	606	24
NIKOLAEVSK-NA-AMURE	313690	53.15	140.70	8	640	25
NIKOLAEVSKOE	261670	58.57	29.80	6A	652	26
NIKOLO-POLOMA	272520	58.35	43.38	7	620	24
NIKOLSKOE	326180	55.20	165.98	7	673	26
NIZHNEANGARSK	304330	55.78	109.55	8	360	14
NIZHNEUDINSK	296980	54.88	99.03	7	404	16
NIZHNYJ TAGIL	282400	57.88	60.07	7	532	21
NIZNIJ NOVGOROD	274590	56.27	44.00	7	608	24
NJAKSIMVOL	237240	62.43	60.87	8	528	21
NJANDOMA	228540	61.67	40.18	7	729	29
NJURBA	246390	63.28	118.33	8	283	11
NOGLIKI	320530	51.92	143.13	7	693	27
NOLINSK	273930	57.55	49.95	7	641	25
NORSK	313880	52.35	129.92	8	559	22
NOVOKUZNETSK	298460	53.82	86.88	7	462	18
NOVOSELENGINSK	308290	51.10	106.65	7	268	11
NOVOSIBIRSK	296340	55.08	82.90	7	436	17
NOZOVKA	283190	57.08	54.75	7	531	21
OBJACEVO	229960	60.37	49.65	7	606	24
OBLUCE	317020	49.00	131.08	7	720	28
ODESSKOE	287970	54.20	72.97	7	330	13

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
OHANSK	283210	57.72	55.38	7	549	22
OHOTSK	310880	59.37	143.20	8	489	19
OKTJABRSKOE	237340	62.45	66.05	8	591	23
OLEKMINSK	249440	60.40	120.42	8	307	12
OLENEK	241250	68.50	112.43	8	290	11
OLOVJANNAJA	309610	50.95	115.58	7	327	13
OMSK	286980	55.02	73.38	7	381	15
ONEGA	226410	63.90	38.12	7	591	23
ONGUDAJ	362310	50.73	86.15	7	363	14
OPARINO	270830	59.85	48.28	7	658	26
ORDYNSKOE	297260	54.37	81.95	7	398	16
OREL	279060	52.93	36.00	6A	639	25
ORENBURG	351210	51.68	55.10	7	365	14
OSTASKOV	263890	57.13	33.12	7	615	24
OSTROV CHETYREHSTOL	219650	70.63	162.48	8	88	3
OSTROV DIKSON	206740	73.50	80.40	8	348	14
OSTROV GOLOMJANNYJ	200870	79.55	90.62	8	226	9
OSTROV KOTELNYJ	214320	76.00	137.87	8	135	5
OSTROV PREOBRAZENIJ	215040	74.67	112.93	8	158	6
OSTROV UEDINENIJA	202740	77.50	82.20	8	158	6
OSTROV VIZE	200690	79.50	76.98	8	209	8
OSTROV VRANGELJA	219820	70.98	–178.48	8	171	7
OZERNAJA	325940	51.48	156.48	7	809	32
PADUN	221060	68.60	31.85	7	525	21
PARTIZANSK	319870	43.15	133.02	6A	782	31
PAVELEC	278230	53.78	39.25	7	542	21
PECHORA	234180	65.12	57.10	8	569	22
PENZA	279620	53.12	45.02	7	540	21
PERM	282250	57.95	56.20	7	614	24
PERVOMAJSKOE	293480	57.07	86.22	7	439	17
PETROPAVLOVSK-KAMCH	325400	53.08	158.58	7	1127	44
PETROPAVLOVSK-KAMCH	325830	52.98	158.65	7	1152	45
PETROVSKIJ ZAVOD	308380	51.32	108.87	8	328	13
PETROZAVODSK	228200	61.82	34.27	7	574	23
PIHTOVKA	295340	55.98	82.70	7	410	16
PILVO	320690	50.05	142.17	7	639	25
PINEGA	225630	64.70	43.38	7	557	22
PIROVSKOE	293630	57.63	92.27	8	481	19
PJALICA	223490	66.18	39.53	7	447	18
POGIBI	320270	52.22	141.63	8	570	22
POGRANICHNOE	320760	50.40	143.77	8	751	30
POGRANICHNYJ	319150	44.40	131.38	7	618	24
POJARKOVO	315870	49.62	128.65	7	533	21
POKROVSKAJA	248560	61.48	129.15	8	269	11
POLARGMO IM. E.T. K	200460	80.62	58.05	8	256	10
POLTAVKA	319170	44.03	131.32	7	588	23
PORONAJSK	320980	49.22	143.10	7	750	30
POSET	319690	42.65	130.80	6A	742	29
PREOBRAZHENIE	319890	42.90	133.90	6A	784	31
PRIARGUNSK	309750	50.40	119.07	8	357	14
PRIMORSKO-AHTARSK	348240	46.03	38.15	5A	565	22
PSKOV	262580	57.82	28.42	6A	629	25
PUDINO	293130	57.53	79.37	7	452	18

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
PUDOZ	228310	61.80	36.52	7	690	27
RA-IZ	233310	66.90	65.67	8	774	30
REBOLY	226020	63.83	30.82	7	596	23
REBRIHA	299230	53.07	82.30	7	409	16
REMONTNOE	347590	46.57	43.67	5A	379	15
RJAZAN'	277310	54.62	39.72	6A	584	23
RJAZAN`	277300	54.63	39.70	6A	584	23
ROMANOVKA	306500	53.20	112.78	8	359	14
ROSLAVL	268820	53.93	32.83	6A	604	24
ROSTOV	273290	57.20	39.42	7	590	23
ROSTOV-NA-DONU	347310	47.25	39.82	5A	593	23
RUBCOVSK	360340	51.50	81.22	7	341	13
RUDNAJA PRISTAN	319590	44.37	135.85	7	776	31
RUSSKAYA GAVAN`	203570	76.18	62.57	8	377	15
RYBINSK	272250	58.10	38.68	7	671	26
RZEV	264980	56.27	34.32	6A	626	25
SADRINSK	285520	56.07	63.65	7	433	17
SAIM	239290	60.32	64.22	7	457	18
SAKUN`JA	273730	57.67	46.63	7	600	24
SALEHARD	233300	66.53	66.67	8	442	17
SAMARA	289000	53.25	50.45	7	530	21
SAMARY	283340	57.35	58.22	7	660	26
SANGARY	246520	63.97	127.47	8	311	12
SAR`JA	272710	58.37	45.53	7	643	25
SARAN-PAUL	235270	64.28	60.88	8	499	20
SARATOV	341720	51.57	46.03	6A	431	17
SARGATSKOE	285980	55.60	73.48	7	399	16
SEGEZA	226210	63.77	34.28	7	586	23
SEJAHA	209670	70.17	72.52	8	364	14
SEJMCHAN	257030	62.92	152.42	8	311	12
SEKTAGLI	315340	50.43	131.02	8	724	29
SELAGONCY	243290	66.25	114.28	8	292	11
SELEMDZA	313380	53.13	133.97	8	666	26
SEMJACHIK	325090	54.12	159.98	7	1297	51
SENKURSK	227680	62.10	42.90	7	568	22
SERAFIMOVIC	343570	49.57	42.75	6A	435	17
SERBAKUL	287910	54.63	72.43	7	338	13
SEROV	280440	59.60	60.53	7	487	19
SEVERNOE	294180	56.35	78.35	7	443	17
SEVERO-KURILSK	322150	50.68	156.13	7	1731	68
SHEREMETYEVO	275155	55.97	37.42	7	674	27
SHILKA	308620	51.87	116.03	8	339	13
SIMANOVSK	314420	51.98	127.65	8	534	21
SIMUSIR	321950	46.85	151.87	7	1310	52
SIRA	297560	54.50	89.93	7	454	18
SKOVORODINO	306920	54.00	123.97	8	434	17
SLAVGOROD	299150	52.97	78.65	7	304	12
SMIDOVICH	317250	48.62	133.83	7	699	28
SMOLENSK	267810	54.75	32.07	6A	674	27
SOFIJSKIJ PRIISK	314780	52.27	133.98	8	739	29
SOJNA	222710	67.88	44.13	8	401	16
SOLNETHNAYA	305370	54.03	108.27	7	267	10
SOLOVEVSK	309670	49.90	115.75	7	303	12

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
SORTAVALA	228020	61.72	30.72	7	606	24
SOSNOVO-OZERSKOE	307450	52.53	111.55	8	345	14
SOSUNOVO	318660	46.53	138.33	7	729	29
SOSVA	236250	63.65	62.10	8	487	19
SOVETSKAYA GAVAN	317700	48.97	140.30	7	739	29
SREDNY VASJUGAN	291110	59.22	78.23	7	550	22
SRETENSK	307770	52.23	117.70	8	353	14
ST.PETERSBURG	260630	59.97	30.30	6A	625	25
STARAJA RUSSA	262750	58.02	31.32	6A	605	24
STAVROPOL	349490	45.12	42.08	5A	551	22
STERLITAMAK	288250	53.58	56.00	7	520	20
STRELKA	292740	58.08	93.00	7	480	19
SUHAJA	307260	52.57	107.13	7	304	12
SUHINICI	277070	54.10	35.58	6A	624	25
SUHOBUZIMSKOE	294770	56.50	93.28	7	378	15
SUMIHA	286550	55.23	63.32	7	409	16
SUNTAR	247380	62.15	117.65	8	280	11
SURA	226760	63.58	45.63	7	542	21
SURGUT	238490	61.25	73.50	8	549	22
SUTUR	315380	50.07	132.13	8	688	27
SVETLOGRAD	349540	45.35	42.85	5A	485	19
SVOBODNYJ	314450	51.45	128.12	8	565	22
SYKTYVKAR	238040	61.68	50.78	7	569	22
SYM	239750	60.35	88.37	8	513	20
SYZRAN`	279830	53.18	48.40	6A	455	18
TADIBE-YAKHA	209640	70.35	74.13	8	349	14
TAJSHET	295940	55.95	98.00	7	427	17
TAMBEY	208640	71.48	71.82	8	320	13
TAMBOV	279470	52.80	41.33	6A	556	22
TANGUJ	304050	55.38	101.03	7	364	14
TANHOJ	308240	51.57	105.12	7	795	31
TARA	284930	56.90	74.38	7	442	17
TARKO-SALE	235520	64.92	77.82	8	501	20
TASTYP	299560	52.80	89.92	7	460	18
TATARSK	296050	55.20	75.97	7	376	15
TAZOVSKOE	232560	67.47	78.73	8	447	18
TERIBERKA	220280	69.20	35.12	7	491	19
TERNEJ	319090	45.00	136.60	7	828	33
TEVRIZ	283830	57.52	72.40	7	474	19
TIHORECK	348380	45.85	40.08	5A	622	25
TIHVIN	260940	59.65	33.55	7	701	28
TIKSI	218240	71.58	128.92	8	227	9
TISUL	295570	55.75	88.32	7	542	21
TIVJAKU	317540	48.60	137.05	8	890	35
TJUHTET	294560	56.53	89.32	7	508	20
TJUKALINSK	285860	55.87	72.20	7	391	15
TJUMEN	283670	57.12	65.43	7	470	19
TOBOLSK	282750	58.15	68.25	7	473	19
TOGUCHIN	296360	55.23	84.40	7	438	17
TOKO	311370	56.28	131.13	8	473	19
TOMPA	304390	55.12	109.75	8	357	14
TOMSK	294300	56.50	84.92	7	527	21
TOT`MA	270510	59.88	42.75	7	647	25

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
TROICKOE	316550	49.45	136.57	7	658	26
TROICKO-PECHERSKOE	237110	62.70	56.20	8	633	25
TROIZK	287480	54.08	61.62	7	370	15
TRUBCEVSK	269970	52.58	33.77	6A	644	25
TUAPSE	370180	44.10	39.07	4A	1469	58
TULA	277190	54.23	37.62	6A	620	24
TULUN	305040	54.60	100.63	7	416	16
TUMNIN	316830	49.67	140.12	7	561	22
TUNGOKOCEN	306640	53.53	115.62	8	390	15
TUNKA	308110	51.73	102.53	8	372	15
TURA	245070	64.27	100.23	8	362	14
TURINSK	282550	58.05	63.68	7	485	19
TUROCAK	360610	52.27	87.17	7	852	34
TURUHANSK	234720	65.78	87.93	8	559	22
TVER	274020	56.90	35.88	7	645	25
TYNDA	304990	55.18	124.67	8	578	23
UAKIT	304550	55.47	113.62	8	365	14
UEGA	249820	60.72	142.78	8	439	17
UFA	287220	54.72	55.83	7	590	23
UHTA	236060	63.55	53.82	7	542	21
UJAR	295760	55.80	94.33	7	447	18
ULAN-UDE	308230	51.83	107.60	7	272	11
ULETY	308460	51.35	112.47	7	332	13
ULYANOVSK	277860	54.32	48.33	7	491	19
UMBA	223240	66.68	34.35	7	489	19
UNAHA	311990	55.03	126.80	8	585	23
URJUPINSK	342400	50.80	42.00	6A	475	19
URMI	316240	49.40	133.23	7	854	34
URUP	321860	46.20	150.50	7	1263	50
UST-BARGUZIN	306350	53.42	109.02	8	372	15
UST-CILMA	234050	65.43	52.27	8	550	22
UST-ILIMSK	301170	58.20	102.75	8	391	15
UST-ISIM	283820	57.72	–71.18	7	525	21
UST-JUDOMA	310540	59.18	135.15	8	360	14
UST-KAMCHATSK	324080	56.22	162.47	7	692	27
UST-KULOM	238030	61.68	53.68	7	625	25
UST-KUT	303200	56.87	105.70	8	525	21
UST-MAJA	249660	60.38	134.45	8	307	12
UST-NJUKZHA	303850	56.58	121.48	8	439	17
UST-OLOJ	253250	66.55	159.42	8	256	10
USTORDYNSKIJ	307130	52.82	104.77	8	314	12
UST-UDA	305140	54.17	103.02	8	302	12
UST-UMALTA	314740	51.63	133.32	8	777	31
UST-USA	234120	65.97	56.92	8	509	20
UST-VOJAMPOLKA	322520	58.50	159.17	8	477	19
USUGLI	307640	52.65	115.17	8	360	14
UYBAT	298640	53.72	90.37	7	288	11
UZUR	296530	55.30	89.82	7	414	16
VANZIL-KYNAK	239660	60.35	84.08	8	577	23
VELIKIE LUKI	264770	56.35	30.62	6A	596	23
VELSK	228670	61.08	42.07	7	594	23
VERESCAGINO	282160	58.08	54.68	7	580	23
VERHNEE PENZINO	255380	64.22	164.23	8	322	13

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
VERHNEIMBATSK	236780	63.15	87.95	8	561	22
VERHNIJ BASKUNCAK	345790	48.22	46.73	5B	269	11
VERHNIJ UFALEJ	285410	56.08	60.30	7	535	21
VERHNJAJA TOJMA	227780	62.23	45.02	7	596	23
VERHNJAJA TOM	314590	51.35	130.43	8	665	26
VERHOTUR`E	281440	58.87	60.78	7	520	20
VESELAJA GORKA	314180	52.28	135.80	7	607	24
VESLJANA	237010	62.98	50.90	7	581	23
VIKULOVO	284810	56.82	70.62	7	427	17
VILJUJSK	246410	63.77	121.62	8	264	10
VITIM	300540	59.45	112.58	8	433	17
VJAZMA	266950	55.17	34.40	7	660	26
VLADIMIR	275320	56.12	40.35	7	620	24
VLADIVOSTOK	319600	43.12	131.93	6A	795	31
VNUKOVO	275185	55.58	37.25	6A	667	26
VOLCIHA	360220	52.02	80.37	7	343	14
VOLGOGRAD	345600	48.78	44.37	6A	387	15
VOLOGDA	270370	59.32	39.92	7	561	22
VORKUTA	232260	67.48	64.02	8	574	23
VOROGOVO	239730	61.03	89.63	8	575	23
VORONEZ	341220	51.65	39.25	6A	570	22
VORONEZ	341230	51.70	39.22	6A	570	22
VOZEGA	229540	60.47	40.20	7	672	26
VYBORG	228920	60.72	28.73	7	693	27
VYTEGRA	228370	61.02	36.45	7	671	26
WLADIKAVKAZ	372280	43.05	44.65	5A	895	35
ZAMETCINO	278570	53.48	42.63	6A	496	20
ZAMOKTA	307410	52.77	109.97	8	471	19
ZAVITAJA	315270	50.12	129.47	7	595	23
ZDVINSK	297120	54.70	78.67	7	332	13
ZEJA	313000	53.70	127.30	8	527	21
ZERDEVKA	340470	51.83	41.48	6A	504	20
ZHIGALOVO	305210	54.80	105.22	8	333	13
ZHIGANSK	243430	66.77	123.40	8	274	11
ZILAIR	350260	52.22	57.40	7	569	22
ZILOVO	306690	53.07	117.48	8	401	16
ZIMA	306030	53.93	102.05	7	348	14
ZIZGIN	224380	65.20	36.82	7	371	15
ZOHOVA ISLAND	213580	76.15	152.83	8	201	8
ZOLOTOJ	318290	47.32	138.98	7	912	36
ZURAVLEVKA	319420	44.75	134.47	7	656	26
ZYRJANKA	254000	65.73	150.90	8	275	11
Saint Lucia (LCA)						
HEWANORRA INTL AIRP	789480	13.75	–60.95	0A	1128	44
Samoa (WSM)						
APIA	917620	–13.80	–171.78	0A	2971	117
Saudi Arabia (SAU)						
ABHA	411120	18.23	42.65	3B	224	9
AL-AHSA	404200	25.30	49.48	0B	90	4
AL-BAHA	410550	20.30	41.65	2B	157	6
AL-JOUF	403610	29.78	40.10	2B	56	2
AL-MADINAH	404300	24.55	39.70	0B	61	2
AL-QAISUMAH	403730	28.32	46.13	1B	136	5

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
AL-TAIF	410360	21.48	40.55	2B	150	6
AL-WEJH	404000	26.20	36.48	1B	35	1
ARAR	403570	30.90	41.13	2B	59	2
BISHA	410840	19.98	42.63	1B	117	5
DHAHRAN	404160	26.27	50.17	0B	79	3
GASSIM	404050	26.30	43.77	1B	187	7
GIZAN	411400	16.88	42.58	0B	136	5
GURIAT	403600	31.40	37.28	2B	66	3
HAIL	403940	27.43	41.68	2B	125	5
JEDDAH (KING ABDUL AZIZ INTL)	410240	21.70	39.18	0B	57	2
KHAMIS MUSHAIT	411140	18.30	42.80	2B	214	8
KING KHALED INT. AI	404370	24.93	46.72	1B	127	5
MAKKAH	410300	21.43	39.77	0B	102	4
NAJRAN	411280	17.62	44.42	1B	76	3
RAFHA	403620	29.62	43.48	2B	81	3
RIYADH OBS. (O.A.P.)	404380	24.70	46.73	0B	130	5
SHARORAH	411360	17.47	47.10	0B	66	3
TABUK	403750	28.38	36.60	2B	54	2
TURAIF	403560	31.68	38.73	3B	102	4
YENBO	404390	24.13	38.07	0B	38	2
Senegal (SEN)						
DAKAR/YOFF	616410	14.73	–17.50	1B	423	17
KAOLACK	616790	14.13	–16.07	0B	597	24
LINGUERE	616270	15.38	–15.12	0B	432	17
MATAM	616300	15.65	–13.25	0B	369	15
SAINT-LOUIS	616000	16.05	–16.45	1B	255	10
TAMBACOUNDA	616870	13.77	–13.68	0B	765	30
ZIGUINCHOR	616950	12.55	–16.27	0A	1264	50
Serbia (SRB)						
BANATSKI KARLOVAC	131800	45.05	21.03	4A	627	25
BEOGRAD	132740	44.80	20.47	4A	674	27
BEOGRAD/SURCIN	132720	44.82	20.28	4A	666	26
CRNI VRH	132890	44.12	21.95	6A	684	27
CUPRIJA	133840	43.93	21.38	4A	652	26
DIMITROVGRAD	133970	43.02	22.75	5A	618	24
KIKINDA	131740	45.85	20.47	4A	544	21
KOPAONIK	133780	43.28	20.80	7	845	33
KRALJEVO	133760	43.70	20.70	4A	785	31
KRUSEVAC	133830	43.57	21.35	4A	648	26
LESKOVAC	133890	42.98	21.95	4A	610	24
LOZNICA	132620	44.55	19.23	4A	832	33
NEGOTIN	132950	44.23	22.55	4A	592	23
NIS	133880	43.33	21.90	4A	615	24
NOVI SAD RIMSKI SAN	131680	45.33	19.85	4A	581	23
PALIC	130670	46.10	19.77	4A	539	21
PEC	134730	42.67	20.30	4A	863	34
PLEVLJA	133630	43.35	19.35	5A	936	37
PODGORICA	134624	42.35	19.25	3A	1707	67
PODGORICA/GOLUBOVCI	134620	42.37	19.25	3A	1707	67
PRISTINA	134810	42.65	21.15	5A	629	25
PRIZREN	134770	42.22	20.73	4A	852	34
SJENICA	133690	43.28	20.00	6A	763	30
SMEDEREVSKA PALANKA	132790	44.37	20.95	4A	644	25

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
SOMBOR	131600	45.77	19.15	4A	591	23
SREMSKA MITROVICA	132660	45.10	19.55	4A	618	24
TIVAT	134570	42.40	18.73	3A	2205	87
VALJEVO	132690	44.32	19.92	4A	783	31
VELIKO GRADISTE	132850	44.75	21.52	4A	644	25
VRANJE	134890	42.55	21.92	4A	611	24
VRSAC	131830	45.15	21.32	4A	678	27
ZLATIBOR	133670	43.73	19.72	5A	951	37
ZRENJANIN	131730	45.37	20.42	4A	567	22
Seychelles (SYC)						
SEYCHELLES INTERNAT	639800	–4.67	55.52	0A	2337	92
Singapore (SGP)						
SINGAPORE/CHANGI AI	486980	1.37	103.98	0A	2068	81
Sint Maarten, Dutch part (SXM)						
PRINSES JULIANA	788660	18.03	–63.12	0A	1056	42
Slovakia (SVK)						
BRATISLAVA-LETISKO	118160	48.20	17.20	5A	578	23
CHOPOK	119160	48.98	19.60	7	990	39
DUDINCE	118800	48.17	18.87	5A	579	23
HURBANOVO	118580	47.87	18.20	5A	554	22
KAMENICA NAD CIROCH	119930	48.93	22.00	5A	733	29
KOSICE	119680	48.67	21.22	5A	613	24
LIESEK	119180	49.37	19.68	6A	895	35
LOMNICKY STIT	119300	49.20	20.22	8	1156	46
LUCENEC	119270	48.33	19.73	5A	664	26
MILHOSTOV	119780	48.67	21.73	5A	599	24
NITRA	118550	48.28	18.13	5A	590	23
PIESTANY	118260	48.62	17.83	5A	603	24
POPRAD/TATRY	119340	49.07	20.25	6A	590	23
PRIEVIDZA	118670	48.77	18.60	5A	739	29
SLIAC	119030	48.65	19.15	5A	690	27
STRBSKE PLESO	119330	49.12	20.08	7	1156	46
STROPKOV/TISINEC	119760	49.22	21.65	5A	698	27
TELGART	119380	48.85	20.18	6A	801	32
ZILINA/HRICOV	118410	49.23	18.62	5A	787	31
Slovenia (SVN)						
KREDARICA	140080	46.38	13.85	7	1998	79
LISCA	140240	46.07	15.28	5A	1132	45
LJUBLJANA/BEZIGRAD	140150	46.07	14.52	4A	1364	54
LJUBLJANA/BRNIK	130140	46.22	14.48	5A	1500	59
MARIBOR	130260	46.48	15.68	5A	1099	43
MURSKA SOBOTA	140310	46.65	16.18	5A	894	35
NOVA GORICA	141060	45.90	13.63	4A	1520	60
NOVO MESTO	141210	45.80	15.18	5A	1208	48
PORTOROZ	131050	45.52	13.57	4A	1116	44
SLAVONSKI BROD	131500	45.17	18.00	5A	822	32
Solomon Islands (SLB)						
HONIARA/HENDERSON	915200	–9.42	160.05	0A	2004	79
South Africa (ZAF)						
BETHLEHEM	684610	–28.25	28.33	3A	690	27
BLOEMFONTEIN AIRPOR	684420	–29.10	26.30	3B	568	22
CALVINIA	686180	–31.47	19.77	3B	210	8
CAPE COLUMBINE	687120	–32.83	17.85	3C	273	11

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CAPE TOWN INTNL. AI	688160	–33.97	18.60	3C	521	21
DE AAR	685380	–30.65	24.00	3B	331	13
DURBAN INTNL. AIRPO	685880	–29.97	30.95	2A	909	36
EAST LONDON	688580	–33.03	27.83	3A	875	34
GEORGE AIRPORT	688280	–34.02	22.38	3A	741	29
GOUGH ISLAND	689060	–40.35	–9.88	4A	3191	126
JOHANNESBURG INTNL.	683680	–26.15	28.23	3A	727	29
KIMBERLEY	684380	–28.80	24.77	3B	421	17
LANGEBAANWEG	687140	–32.97	18.17	3B	281	11
MAFIKENG WO	682420	–25.82	25.55	3B	562	22
MARION ISLAND	689940	–46.88	37.87	6A	2280	90
MOSSEL BAY (CAPE ST BLAIZE)	689280	–34.18	22.15	3B	379	15
PIETERSBURG	681740	–23.87	29.45	3B	487	19
PORT ELIZABETH	688420	–33.98	25.62	3A	608	24
PRETORIA (IRENE)	682630	–25.92	28.22	3A	714	28
PRETORIA-EENDRACHT	682620	–25.73	28.18	3A	681	27
SPRINGBOK	685120	–29.67	17.90	3B	192	8
UPINGTON	684240	–28.40	21.27	2B	195	8
Spain (ESP)						
ALBACETE/LOS LLANOS	082800	38.95	–1.85	4B	357	14
ALICANTE/EL ALTET	083600	38.28	–0.55	3B	319	13
ALMERIA/AEROPUERTO	084870	36.85	–2.38	3B	200	8
BARCELONA/AEROPUERT	081810	41.28	2.07	3A	623	25
BILBAO/SONDICA	080250	43.30	–2.90	3A	1231	48
CACERES	082610	39.47	–6.33	3A	569	22
CIUDAD REAL	083480	38.98	–3.92	3B	428	17
COIMBRA/CERNACHE	085480	40.15	–8.47	3C	998	39
GERONA/COSTA BRAVA	081840	41.90	2.77	3A	727	29
GRANADA/AEROPUERTO	084190	37.18	–3.78	3A	507	20
IBIZA/ES CODOLA	083730	38.88	1.38	3B	414	16
LA CORUNA	080010	43.37	–8.42	3C	1014	40
LAS PALMAS DE GRAN	600300	27.93	–15.38	2B	125	5
LOGRONO/AGONCILLO	080840	42.45	–2.33	3A	718	28
MADRID/BARAJAS RS	082210	40.45	–3.55	4A	454	18
MADRID/TORREJON	082270	40.48	–3.45	4A	461	18
MALAGA/AEROPUERTO	084820	36.67	–4.48	3A	558	22
MENORCA/MAHON	083140	39.87	4.23	3A	580	23
MORON DE LA FRONTER	083970	37.15	–5.62	3A	556	22
MURCIA	084300	38.00	–1.17	3B	283	11
OVIEDO	080150	43.35	–5.87	4A	1043	41
PALMA DE MALLORCA/S	083060	39.55	2.73	3A	620	24
ROTA NAS	084490	36.65	–6.35	3A	535	21
SALAMANCA/MATACAN	082020	40.95	–5.50	4C	459	18
SAN SEBASTIAN/IGUEL	080270	43.30	–2.03	3A	1715	68
SANTANDER	080230	43.48	–3.80	3C	1171	46
SANTIAGO/LABACOLLA	080420	42.90	–8.43	4C	1649	65
SEVILLA/SAN PABLO	083910	37.42	–5.90	3A	604	24
STA. CRUZ DE TENERI	600200	28.45	–16.25	2B	221	9
TENERIFE SUR	600250	28.05	–16.57	2B	286	11
VALENCIA/AEROPUERTO	082840	39.50	–0.47	3B	437	17
VALLADOLID	081410	41.65	–4.77	4A	454	18
VIGO/PEINADOR	080450	42.23	–8.63	3C	1587	62
VITORIA	080800	42.88	–2.72	4A	1042	41

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
ZARAGOZA (USAFB)	081605	41.67	–1.05	3B	311	12
ZARAGOZA/AEROPUERTO	081600	41.67	–1.00	3B	311	12
Sri Lanka (LKA)						
KATUNAYAKE	434500	7.17	79.88	0A	2031	80
St. Helena, Ascension, and Tristan de Cunha (SHN)						
ST. HELENA IS.	619010	–15.93	–5.67	3C	44	2
WIDE AWAKE FIELD (ASI)	619020	–7.97	–14.40	1B	117	5
Suriname (SUR)						
ZANDERIJ	812250	5.45	–55.20	0A	2249	89
Svalbard and Jan Mayen (SJM)						
BJORNOYA	010280	74.52	19.02	8	391	15
HOPEN	010620	76.50	25.07	8	431	17
SVALBARD LUFTHAVN	010080	78.25	15.47	8	186	7
Sweden (SWE)						
ANGELHOLM	025635	56.30	12.85	5A	742	29
ARJEPLOG	021240	66.05	17.87	7	588	23
ARVIKA	024040	59.67	12.58	6A	702	28
BJUROKLUBB (LGT-H)	022960	64.48	21.58	7	588	23
BLOMSKOG	024080	59.22	12.08	6A	812	32
BORLANGE	024350	60.43	15.52	6A	638	25
EDSBYN	023380	61.37	15.72	7	589	23
FALSTERBO	026160	55.38	12.82	5A	502	20
FARO ISLAND	025880	57.90	19.17	6A	535	21
FLODA	024760	59.05	16.40	6A	575	23
FOLKARNA	024440	60.17	16.32	6A	602	24
FRANSTA	023420	62.50	16.18	7	545	21
GADDEDE	022220	64.50	14.17	7	799	31
GALLIVARE	020490	67.15	20.65	7	526	21
GAVLE	024530	60.72	17.17	6A	632	25
GLADHAMMAR	025760	57.78	16.60	6A	538	21
GOTEBORG	025130	57.72	12.00	5A	813	32
GOTEBORG/LANDVETTER	025260	57.67	12.30	6A	931	37
GOTEBORG/SAVE	025120	57.78	11.88	6A	813	32
GOTSKA SANDON	025840	58.40	19.20	6A	537	21
GUNNARN	021280	65.02	17.68	7	597	24
HAGSHULT	025560	57.30	14.13	6A	769	30
HALLANDS VADERO	026050	56.45	12.55	5A	667	26
HANO	026280	56.02	14.85	5A	577	23
HAPARANDA	021960	65.83	24.15	7	577	23
HARSTENA	025860	58.25	17.02	6A	664	26
HELSINGBORG	026110	56.03	12.77	5A	729	29
HOBURG	026800	56.92	18.15	5A	507	20
HOLMOGADD	022880	63.60	20.75	7	572	23
IDVATTNET	022520	64.45	17.08	7	605	24
JOKKMOKK (SWE-AFB)	021420	66.63	19.65	8	501	20
JONKOPING/AXAMO	025500	57.75	14.08	6A	690	27
JUNSELE	022440	63.68	16.95	7	575	23
KALMAR	026700	56.68	16.30	5A	501	20
KALMAR	026720	56.73	16.30	6A	501	20
KARESUANDO	020800	68.45	22.45	8	456	18
KARLSBORG(SAFB)	025440	58.52	14.53	6A	582	23
KARLSTAD FLYGPLATS	024180	59.45	13.47	6A	638	25
KATTERJAKK	020200	68.42	18.17	8	817	32

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KIRUNA	020440	67.82	20.33	8	502	20
KLIMPFJALL	021080	65.07	14.80	7	736	29
KRANGEDE	022470	63.15	16.17	7	579	23
KUGGOREN	023550	61.70	17.53	6A	683	27
KULLEN (LGT-H)	026060	56.30	12.45	5A	573	23
KVIKKJOKK-ARRENJARK	021200	66.88	17.75	7	629	25
LAINIO	020860	67.77	22.35	8	535	21
LANDSORT	025820	58.75	17.87	6A	446	18
LINKOPING/MALMSLATT	025620	58.40	15.53	6A	552	22
LJUNGBY	026220	56.85	13.88	6A	825	32
LJUNGBYHED	020001	56.08	13.20	5A	798	31
LULEA-KALLAX	021860	65.55	22.13	7	532	21
MALILLA	025660	57.40	15.82	6A	572	23
MALMO/STURUP	026360	55.55	13.37	5A	696	27
MALUNG	024100	60.68	13.72	7	704	28
MASESKAR	025050	58.10	11.33	5A	648	25
NAIMAKKA	020600	68.68	21.53	8	462	18
NIDINGEN	025180	57.30	11.90	5A	742	29
NIKKALUOKTA	020360	67.85	19.03	8	513	20
NORRKOPING/BRAVALLA	025700	58.62	16.12	6A	549	22
NORRKOPING/KUNGSANG	025710	58.58	16.15	6A	549	22
OLANDS NORRA UDDE	025920	57.37	17.10	5A	422	17
OLANDS SODRA UDDE	026440	56.20	16.40	5A	726	29
OREBRO	024320	59.23	15.05	6A	650	26
ORSKAR	024880	60.53	18.38	6A	475	19
OSBY	026260	56.37	13.95	6A	796	31
OSTERSUND FROSON	022260	63.20	14.50	7	486	19
OSTMARK	024000	60.35	12.65	7	799	31
OVERKALIX SVARTBYN	021810	66.27	22.85	7	549	22
PAJALA	020960	67.22	23.40	7	586	23
PALKEM	021640	66.38	21.63	7	670	26
PITE-RONNSKAR	021760	65.03	21.57	7	446	18
RANGEDALA	025360	57.78	13.17	6A	933	37
RITSEM	020120	67.73	17.47	7	608	24
RONNEBY/KALLINGE	026640	56.27	15.27	6A	655	26
RORBACKSNAS	023060	61.13	12.82	7	753	30
SARNA	023160	61.70	13.18	7	686	27
SATENAS	025200	58.43	12.72	6A	689	27
SINGO ISLAND	024740	60.17	18.75	6A	640	25
SKAGSUDDE	022690	63.18	19.02	6A	532	21
SKAVSTA	024853	58.78	16.90	6A	534	21
SKILLINGE	026250	55.48	14.32	5A	557	22
SODERHAMN	022861	61.25	17.10	6A	636	25
STOCKHOLM/ARLANDA	024600	59.65	17.95	6A	556	22
STOCKHOLM/BROMMA	024640	59.37	17.90	6A	550	22
STORLIEN	022060	63.30	12.12	7	986	39
SVEG	023240	62.02	14.37	7	631	25
SVENSKA HOGARNA	024960	59.45	19.50	6A	453	18
TANNAS	023080	62.45	12.67	7	614	24
TIMRA/MIDLANDA	023660	62.52	17.45	7	597	23
UMEA	022860	63.80	20.28	7	596	23
UNGSKAR	026660	56.03	15.80	5A	537	21
UPPSALA	024580	59.90	17.60	6A	570	22

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
VASTERAS/HASSLO AFB	024460	59.58	16.63	6A	544	21
VIDSEL	021540	65.88	20.15	7	615	24
VILHELMINA	022450	64.58	16.85	7	594	23
VISBY	025900	57.67	18.35	6A	521	21
VUOGGATJALME	021120	66.57	16.35	8	621	24
Switzerland (CHE)						
AIGLE	067120	46.33	6.92	5A	1324	52
ALTDORF	066720	46.87	8.63	5A	1715	68
CHUR-EMS	067860	46.87	9.53	5A	1123	44
CIMETTA	067590	46.20	8.80	6A	1748	69
COMPROVASCO	067560	46.47	8.93	4A	1568	62
CORVATSCH	067910	46.42	9.82	8	1061	42
DISENTIS	067820	46.70	8.85	6A	1357	53
FAHY	066160	47.43	6.95	5A	1245	49
GENEVE-COINTRIN	067000	46.25	6.13	4A	957	38
GUETSCH	067500	46.65	8.62	7	1613	63
HOERNKI	066890	47.37	8.95	6A	1341	53
INTERLAKEN	067340	46.67	7.87	5A	1304	51
JUNGFRAUJOCH	067300	46.55	7.98	8	1304	51
LA CHAUX-DE-FONDS	066120	47.08	6.80	6A	1301	51
LA DOLE	067020	46.43	6.10	7	1268	50
LAEGERN	066690	47.48	8.40	5A	1116	44
LOCARNO-MAGADINO	067620	46.17	8.88	4A	1748	69
LOCARNO-MONTI	067600	46.17	8.78	4A	1748	69
LUGANO	067700	46.00	8.97	4A	1593	63
MONTANA	067240	46.32	7.48	6A	1097	43
NAPF	066390	47.00	7.93	6A	1332	52
NEUCHATEL	066040	47.00	6.95	5A	978	38
PAYERNE	066100	46.82	6.95	5A	897	35
PIOTTA	067530	46.52	8.68	5A	1613	63
PLAFFEIEN-OBERSCHRO	066280	46.75	7.27	6A	1350	53
ROBBIA	067940	46.35	10.07	6A	1022	40
SAENTIS	066800	47.25	9.35	7	2474	97
SAMEDAM-FLUGPLATZ	067920	46.53	9.88	7	1001	39
SAN BERNARDINO	067830	46.47	9.18	7	1543	61
SION	067200	46.22	7.33	5A	871	34
ST. GALLEN	066810	47.43	9.40	5A	1459	57
STABIO	067710	45.85	8.93	4A	1626	64
WYNAU	066430	47.25	7.78	5A	1273	50
ZUERICH METEOSCHWEI	066600	47.38	8.57	5A	1131	45
ZURICH-KLOTEN	066700	47.48	8.53	5A	1191	47
Syria (SYR)						
ALEPPO INT. AEROPOR	400070	36.18	37.20	3B	326	13
DAMASCUS INT. AIRPO	400800	33.42	36.52	3B	172	7
DARAA	400950	32.60	36.10	3B	268	11
DEIR EZZOR	400450	35.32	40.15	2B	154	6
HAMA	400300	35.12	36.75	3A	373	15
LATTAKIA	400220	35.53	35.77	3A	769	30
NABK	400830	34.03	36.72	4A	279	11
PALMYRA	400610	34.55	38.30	2B	131	5
SAFITA	400660	34.82	36.13	3A	977	38
Taiwan, Province of China (TWN)						
CHIANG KAI SHEK	466860	25.08	121.22	2A	1827	72

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
CHIAYI	467480	23.50	120.45	2A	1793	71
CHIAYI (TW-AFB)	467460	23.47	120.38	2A	1793	71
CHIHHANG (TW-AFB)	467600	22.80	121.18	1A	1943	77
CHILUNG	466940	25.15	121.80	2A	3111	122
CHINMEM/SHATOU(AFB)	467360	24.43	118.37	2A	1110	44
DONGSHA DAO	597920	20.67	116.72	1A	1445	57
HENGCHUN	467520	21.93	120.83	1A	1982	78
HENGCHUN	595590	22.00	120.75	1A	1982	78
HSINCHU (TW-AFB)	467560	24.82	120.93	2A	1697	67
HSINCHU CITY	467570	24.83	120.93	2A	1697	67
HUA-LIEN CITY	466990	23.98	121.60	2A	2129	84
HULIEN AB (=593620)	467630	24.03	121.62	2A	2129	84
ILAN CITY	467080	24.75	121.78	2A	2621	103
KANGSHAN (TW-AFB)	467450	22.78	120.27	1A	1571	62
KAOHSIUNG	467440	22.63	120.28	1A	1619	64
KAOHSIUNG INTL ARPT	467400	22.58	120.35	1A	1619	64
LAN YU	595670	22.03	121.55	2A	1862	73
MAKUNG AB (=593450)	467340	23.58	119.62	2A	951	37
MAZU	588490	26.17	119.93	3A	1242	49
NANSHA DAO	599970	10.38	114.37	0A	1891	74
PENGHU ISLANDS	467350	23.50	119.50	2A	1606	63
PENGJIA YU	589740	25.63	122.07	2A	1657	65
PINGTUNG NORTH(AFB)	467580	22.70	120.48	1A	1619	64
PINGTUNG SOUTH(AFB)	467500	22.68	120.47	1A	1619	64
SUAO MET STATION	467060	24.60	121.85	2A	2621	103
SUNGSHAN/TAIPEI	466960	25.07	121.55	2A	2218	87
TAIBEI	589680	25.03	121.52	2A	2218	87
TAICHUNG (TW-AFB)	467510	24.18	120.65	2A	1603	63
TAIDONG	595620	22.75	121.15	1A	1878	74
TAINAN	593580	23.00	120.22	1A	1585	62
TAINAN (TW-AFB)	467430	22.95	120.20	1A	1585	62
TAIZHONG	591580	24.15	120.68	1A	1603	63
TAOYUAN AB (=589650)	466970	25.07	121.23	2A	1827	72
WU-CHI OBSERVATORY	467770	24.25	120.52	2A	1652	65
WUCHIA OBSERVATORY	467700	24.27	120.62	2A	1464	58
Tajikistan (TJK)						
DUSHANBE	388360	38.55	68.78	3A	671	26
KHOROG	389540	37.50	71.50	5B	239	9
KHUDJAND	385990	40.22	69.73	4B	162	6
Tanzania, United Republic of (TZA)						
DAR ES SALAAM AIRPO	638940	–6.87	39.20	1A	1125	44
Thailand (THA)						
ARANYAPRATHET	484620	13.70	102.58	0A	1426	56
BANGKOK METROPOLIS	484550	13.73	100.57	0A	1500	59
BHUMIBOL DAM	483770	17.25	99.02	0A	1061	42
BUA CHUM	484180	15.27	101.18	0A	1131	45
CHAIYAPHUM	484030	15.80	102.03	0A	1207	48
CHANTHABURI	484800	12.60	102.12	0A	2902	114
CHIANG MAI	483270	18.78	98.98	1A	1183	47
CHIANG RAI	483030	19.97	99.88	1A	1671	66
CHON BURI	484590	13.37	100.98	0A	1323	52
CHUMPHON	485170	10.48	99.18	0A	2354	93
DON MUANG	484560	13.92	100.60	0A	1438	57

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
HAT YAI	485690	6.92	100.43	0A	1779	70
HUA HIN	484750	12.58	99.95	0A	1002	39
KAM PAENG PHET	483800	16.48	99.53	0A	1277	50
KANCHANABURI	484500	14.02	99.53	0A	1095	43
KHLONG YAI	485010	11.77	102.88	0A	4583	180
KHON KAEN	483810	16.43	102.83	0A	1167	46
KO LANTA	485660	7.53	99.05	0A	2181	86
KO SAMUI	485500	9.47	100.05	0A	1954	77
KO SICHANG	484600	13.17	100.80	0A	1218	48
LAMPANG	483280	18.28	99.52	0A	1132	45
LAMPHUN	483290	18.57	99.03	0A	1062	42
LOEI	483530	17.45	101.73	1A	1218	48
LOP BURI	484260	14.80	100.62	0A	1239	49
MAE HONG SON	483000	19.30	97.83	0A	1313	52
MAE SARIANG	483250	18.17	97.93	0A	1282	50
MAE SOT	483750	16.67	98.55	1A	1584	62
MUKDAHAN	483830	16.53	104.72	0A	1564	62
NAKHON PHANOM	483570	17.42	104.78	0A	2422	95
NAKHON RATCHASIMA	484310	14.97	102.08	0A	1055	42
NAKHON SAWAN	484000	15.80	100.17	0A	1140	45
NAKHON SI THAMMARAT	485520	8.53	99.95	0A	2520	99
NAN	483310	18.77	100.77	0A	1307	51
NARATHIWAT	485830	6.42	101.82	0A	2713	107
NONG KHAI	483520	17.87	102.72	0A	1670	66
PATTANI	485800	6.78	101.15	0A	1873	74
PHATTHAYA	484610	12.92	100.87	0A	1225	48
PHAYAO	483100	19.13	99.90	1A	1127	44
PHETCHABUN	483790	16.43	101.15	0A	1149	45
PHETCHABURI	484650	13.15	100.07	0A	1002	39
PHITSANULOK	483780	16.78	100.27	0A	1345	53
PHRAE	483300	18.17	100.17	0A	1141	45
PHUKET	485640	7.88	98.40	0A	2350	93
PHUKET AIRPORT	485650	8.13	98.32	0A	2656	105
PRACHIN BURI	484300	14.05	101.37	0A	2063	81
PRACHUAP KHIRIKHAN	485000	11.82	99.82	0A	1142	45
RANONG	485320	9.98	98.62	0A	4304	169
RAYONG	484780	12.63	101.35	0A	1433	56
ROI ET	484050	16.05	103.68	0A	1461	58
SAKON NAKHON	483560	17.15	104.13	0A	1615	64
SATTAHIP	484770	12.68	100.98	0A	1274	50
SONGKHLA	485680	7.20	100.62	0A	2116	83
SUPHAN BURI	484250	14.47	100.13	0A	1238	49
SURAT THANI	485510	9.12	99.15	0A	1801	71
SURIN	484320	14.88	103.50	0A	1289	51
TAK	483760	16.88	99.15	0A	1081	43
THA TUM	484160	15.32	103.68	0A	1382	54
THONG PHA PHUM	484210	14.75	98.63	0A	2273	89
TRANG	485670	7.52	99.62	0A	2274	90
UBON RATCHATHANI	484070	15.25	104.87	0A	1644	65
UDON THANI	483540	17.38	102.80	0A	1481	58
UTTARADIT	483510	17.62	100.10	0A	1481	58
Togo (TGO)						
LOME	653870	6.17	1.25	0A	856	34

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
Tonga (TON)						
FUAAMOTU	917920	–21.23	–175.15	1A	1732	68
HAAPAI	917840	–19.80	–174.35	1A	1680	66
Trinidad and Tobago (TTO)						
CROWN POINT AIRPORT	789620	11.15	–60.83	0A	1452	57
PIARCO INT. AIRPORT	789700	10.62	–61.35	0A	1781	70
Tunisia (TUN)						
BIZERTE	607140	37.25	9.80	3A	612	24
DJERBA MELLITA	607690	33.87	10.77	2B	232	9
GABES	607650	33.88	10.10	2B	203	8
GAFSA	607450	34.42	8.82	2B	163	6
HABIB BOURGUIBA INT	607403	35.75	10.75	2B	375	15
JENDOUBA	607250	36.48	8.80	3B	466	18
KAIROUAN	607350	35.67	10.10	2B	289	11
KELIBIA	607200	36.85	11.08	3A	534	21
MONASTIR-SKANES	607400	35.67	10.75	2B	375	15
SFAX EL-MAOU	607500	34.72	10.68	2B	225	9
TABARKA	607100	36.95	8.75	3A	1007	40
THALA	607380	35.55	8.68	3B	420	17
TOZEUR	607600	33.92	8.17	2B	99	4
TUNIS-CARTHAGE	607150	36.83	10.23	3A	466	18
Turkey (TUR)						
ADANA	173520	36.98	35.30	2A	696	27
ADANA/INCIRLIK AB	691464	37.00	35.43	3A	696	27
ADANA/INCIRLIK AFB	173500	37.00	35.42	3A	696	27
AFYON	171900	38.75	30.53	4C	413	16
AKHISAR	171840	38.92	27.85	3A	587	23
ANTALYA	173000	36.87	30.73	3A	1091	43
AYDIN	172340	37.85	27.85	3A	585	23
BALIKESIR	171500	39.62	27.92	4A	554	22
BANDIRMA	171150	40.32	27.97	4A	725	29
BODRUM	172900	37.03	27.43	2A	698	27
BOLU	170700	40.73	31.60	4A	551	22
BURSA	171160	40.18	29.07	3A	682	27
CANAKKALE	171120	40.13	26.40	3A	619	24
CORUM	170840	40.55	34.95	5C	437	17
DALAMAN	172950	36.70	28.78	3A	868	34
DIKILI	171800	39.07	26.88	3A	645	25
DIYARBAKIR	172800	37.88	40.18	4A	480	19
EDIRNE	170500	41.67	26.57	4A	590	23
ELAZIG	172020	38.60	39.28	4A	503	20
ERZINCAN	170920	39.70	39.52	5A	386	15
ERZURUM	170960	39.95	41.17	7	407	16
ESENBOGA	171280	40.12	33.00	5C	421	17
ESKISEHIR	171240	39.78	30.57	4A	390	15
ETIMESGUT	171290	39.95	32.68	4A	375	15
GAZIANTEP	172600	37.08	37.37	3A	583	23
GOKCEADA	171100	40.18	25.90	3A	733	29
GOLCUK/DUMLUPINAR	170670	40.67	29.83	3A	738	29
INEBOLU	170240	41.98	33.78	4A	1007	40
ISKENDERUN	173700	36.58	36.17	2A	766	30
ISPARTA	172400	37.75	30.55	4A	537	21
ISTANBUL/ATATURK	170600	40.97	28.82	3A	640	25

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
IZMIR/A. MENDERES	172190	38.27	27.15	3A	692	27
IZMIR/CIGLI	172180	38.52	27.02	3A	672	26
KAYSERI/ERKILET	171950	38.82	35.43	5C	384	15
KONYA	172440	37.97	32.55	4B	322	13
MALATYA/ERHAC	172000	38.43	38.08	4A	407	16
MERZIFON	170820	40.85	35.58	4C	406	16
MUGLA	172920	37.22	28.37	3A	1168	46
SAMSUN	170300	41.28	36.30	3A	698	27
SILIFKE	173300	36.38	33.93	2A	564	22
SINOP	170260	42.03	35.17	3A	651	26
SIVAS	170900	39.75	37.02	5A	431	17
TEKIRDAG	170560	40.98	27.55	4A	566	22
TRABZON	170380	41.00	39.72	3A	771	30
USAK	171880	38.68	29.40	4A	515	20
VAN	171700	38.45	43.32	5C	387	15
ZONGULDAK	170220	41.45	31.80	4A	1202	47
Turkmenistan (TKM)						
ASHGABAT KESHI	388800	37.92	58.33	3B	236	9
BAJRAMALY	388950	37.60	62.18	3B	178	7
BAKHERDEN	387740	38.43	57.42	3B	238	9
BYRDALYK	388060	38.47	64.37	3B	175	7
CARSANGA	389150	37.52	66.02	2B	197	8
CHARDZHEV	386870	39.08	63.60	4B	129	5
DASHKHOVUZ	383920	41.75	59.82	4B	102	4
EKEZHE	383880	41.03	57.77	4B	128	5
ERBENT	386560	39.32	58.60	4B	106	4
ESENGYLY	387500	37.47	53.97	3B	207	8
GAZANDZHYK	386470	39.25	55.52	3B	171	7
GYSHGY	389870	35.28	62.35	3B	292	11
GYZYLARBAT	387630	38.98	56.28	4B	203	8
KERKI	389110	37.83	65.20	3B	181	7
SARAGT	389740	36.53	61.22	3B	203	8
TEDZHEN	388860	37.38	60.52	3B	169	7
TURKMENBASHI	385070	40.05	53.00	4B	137	5
UCHADZHY	387990	38.08	62.80	3B	143	6
Tuvalu (TUV)						
FUNAFUTI NF	916430	–8.53	179.22	0A	3467	136
Ukraine (UKR)						
BORYSPIL	333470	50.33	30.97	6A	551	22
CHERNIHIV	331350	51.47	31.25	6A	596	23
CHERNIVTSI	336580	48.37	25.90	5A	641	25
CHORNOMORSKE	339240	45.52	32.70	4A	399	16
DNIPROPETROVSK	345040	48.37	35.08	5A	509	20
DONETSK	345190	48.07	37.77	5A	533	21
HENICHESK	339100	46.17	34.82	5A	391	15
IVANO-FRANKIVSK	335260	48.97	24.70	5A	716	28
IZIUM	344150	49.18	37.30	5A	553	22
IZMAIL	338890	45.37	28.85	5A	478	19
KERCH	339830	45.40	36.42	5A	440	17
KHARKIV	343000	49.97	36.13	6A	533	21
KHERSON	339020	46.63	32.57	5A	433	17
KHMELNYTSKYI	334290	49.43	26.98	6A	664	26
KIROVOHRAD	337110	48.52	32.20	5A	499	20

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
KONOTOP	332610	51.23	33.20	6A	609	24
KRYVYI RIH	337910	48.03	33.22	5A	484	19
KYIV	333450	50.40	30.57	5A	633	25
LIUBASHIVKA	337610	47.85	30.27	5A	548	22
LUBNY	333770	50.00	33.02	6A	625	25
LUHANSK	345230	48.57	39.25	5A	474	19
LVIV	333930	49.82	23.95	5A	741	29
MARIUPOL	347120	47.03	37.50	5A	527	21
MOHYLIV-PODILSKYI	336630	48.45	27.78	5A	612	24
MYRONIVKA	334660	49.67	31.00	5A	565	22
NIZHYN	332460	51.05	31.90	6A	607	24
NOVA KAKHOVKA	338690	46.78	33.37	5A	439	17
ODESA	338370	46.43	30.77	5A	446	18
POLTAVA	335060	49.60	34.55	5A	566	22
RIVNE	333010	50.58	26.13	6A	589	23
SARNY	330880	51.28	26.62	5A	633	25
SHEPETIVKA	333170	50.17	27.03	6A	712	28
SIMFEROPOL	339460	45.02	33.98	5A	498	20
SUMY	332750	50.85	34.67	6A	603	24
SVITLOVODSK	336140	49.05	33.25	5A	552	22
TERNOPIL	334150	49.53	25.67	6A	610	24
UMAN	335870	48.77	30.23	5A	630	25
UZHHOROD	336310	48.63	22.27	5A	729	29
VINNYTSIA	335620	49.23	28.60	6A	632	25
VOLODYMYR-VOLYNSKYI	331770	50.83	24.32	5A	620	24
VOZNESENSK	337770	47.57	31.33	5A	506	20
YALTA	339900	44.48	34.17	4A	603	24
ZAPORIZHZHIA	346010	47.80	35.02	5A	504	20
ZHYTOMYR	333250	50.23	28.73	6A	607	24
United Arab Emirates (ARE)						
ABU DHABI BATEEN AI	412160	24.43	54.47	0B	72	3
ABU DHABI INTER. AI	412170	24.43	54.65	0B	68	3
AL AIN INTERNATIONA	412180	24.27	55.60	0B	73	3
DUBAI INTERNATIONAL	411940	25.25	55.33	0B	117	5
FUJAIRAH	411980	25.10	56.33	0B	90	4
RAS AL KHAIMAH INTE	411840	25.62	55.93	0B	128	5
SHARJAH INTER. AIRP	411960	25.33	55.52	0B	84	3
United Kingdom (GBR)						
ABERDARON	034050	52.78	–4.73	4A	1296	51
ABERDEEN/DYCE AIRPO	030910	57.20	–2.22	5A	813	32
ABERPORTH	035020	52.13	–4.57	5A	1224	48
ABOYNE	030800	57.08	–2.83	5A	901	35
ALCONBURY RAF	035620	52.37	–0.22	5A	537	21
ALTNAHARRA NO2	030440	58.28	–4.43	5A	1243	49
ANDREWSFIELD	036840	51.88	0.45	4A	575	23
AONACH MOR	030410	56.82	–4.97	7	1758	69
AUGHTON	033220	53.55	–2.92	5A	881	35
AULTBEA NO2	030340	57.87	–5.63	5A	1635	64
AVIEMORE	030630	57.20	–3.83	6A	1019	40
BALLYKELLY	039080	55.07	–7.02	5A	1099	43
BALLYPATRICK FOREST	039160	55.18	–6.17	5A	1269	50
BALTASOUND NO.2	030020	60.75	–0.85	5A	1210	48
BANGOR HARBOUR	039270	54.67	–5.67	4A	892	35

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
BARRA	030350	57.03	–7.45	5A	1358	53
BEDFORD	035600	52.22	–0.48	5A	569	22
BELFAST/ALDERGROVE	039170	54.65	–6.22	5A	851	34
BENBECULA ISLAND	030220	57.47	–7.37	5A	1358	53
BENSON	036580	51.62	–1.08	5A	655	26
BINGLEY NO.2	033440	53.82	–1.87	5A	992	39
BIRMINGHAM AIRPORT	035340	52.45	–1.73	5A	672	26
BLACKPOOL AIRPORT	033180	53.77	–3.03	5A	977	38
BOSCOMBE DOWN	037460	51.17	–1.75	5A	713	28
BOULMER	032400	55.42	–1.60	5A	687	27
BOURNEMOUTH/HURN	038620	50.78	–1.83	4A	808	32
BRACKNELL/BEAUFORT	037630	51.38	–0.78	4A	684	27
BRAWDY(RAF)	036030	51.88	–5.12	5A	1112	44
BRIDLINGTON MRSC	032920	54.10	–0.17	5A	754	30
BRISTOL	037243	51.38	–2.72	5A	922	36
BRISTOL WEA CENTER	037260	51.47	–2.60	4A	894	35
BRIZE NORTON	036490	51.75	–1.58	5A	737	29
BUTT OF LEWIS (LH)	030250	58.52	–6.27	5A	1203	47
CAMBORNE	038080	50.22	–5.32	4A	1116	44
CAPE WRATH (LGT-H)	030490	58.63	–5.00	5A	1434	56
CAPEL CURIG	033050	53.10	–3.93	5A	1539	61
CARDIFF WEATHER CEN	037170	51.48	–3.18	4A	1073	42
CARDIFF-WALES ARPT	037150	51.40	–3.35	4A	947	37
CARDINHAM	038230	50.50	–4.67	5A	1304	51
CARLISLE	032200	54.93	–2.97	5A	776	31
CELLARHEAD	033380	53.03	–2.08	5A	955	38
CHARTERHALL	031580	55.70	–2.38	5A	783	31
CHIVENOR	037070	51.08	–4.15	4A	989	39
CHURCH LAWFORD	035440	52.37	–1.33	5A	674	27
CILFYNYDD	036140	51.63	–3.30	5A	1329	52
COLLAFIRTH HILL	030040	60.53	–1.38	6A	1076	42
COLTISHALL	034950	52.77	1.35	5A	630	25
CONINGSBY	033910	53.08	–0.17	5A	626	25
CORSEWALL PT. (LH)	031180	55.00	–5.15	5A	1183	47
COTTESMORE	034530	52.73	–0.65	5A	607	24
CRANWELL	033790	53.03	–0.50	5A	583	23
CROSBY	033160	53.50	–3.07	4A	773	30
CULDROSE	038090	50.08	–5.25	4A	1086	43
DISFORTH AIRFIELD	032610	54.13	–1.42	5A	647	25
DONNA NOOK NO.2	033850	53.48	0.08	5A	681	27
DRUMALBIN	031550	55.62	–3.73	5A	1104	43
DUMFRIES/DRUNGANS	031540	55.05	–3.65	5A	1050	41
DUNDRENNAN	031530	54.80	–4.00	5A	1215	48
DUNKESWELL AERODROM	038400	50.87	–3.23	5A	936	37
EAST MIDLANDS	034185	52.83	–1.32	5A	622	24
EDINBURGH AIRPORT	031600	55.95	–3.35	5A	661	26
EMLEY MOOR	033450	53.62	–1.67	5A	784	31
ESKDALEMUIR	031620	55.32	–3.20	6A	1606	63
EXETER AIRPORT	038390	50.73	–3.42	4A	811	32
FAIR ISLE	030080	59.53	–1.63	5A	1124	44
FAIRFORD RAF	036440	51.68	–1.78	5A	748	29
FARNBOROUGH	037680	51.28	–0.77	4A	684	27
FIFE NESS	031740	56.30	–2.58	5A	660	26

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
FINNINGLEY(RAF)	033600	53.48	–1.00	5A	575	23
FOULA	030140	60.12	–2.07	5A	1226	48
FOYERS	030570	57.27	–4.48	5A	932	37
FYLINGDALES	032810	54.37	–0.67	5A	767	30
GLASGOW AIRPORT	031400	55.87	–4.43	5A	1170	46
GLEN OGLE	031480	56.42	–4.32	6A	1675	66
GLENANNE	039230	54.23	–6.50	5A	1026	40
GRAVESEND-BROADNESS	037840	51.47	0.30	4A	643	25
GREAT DUN FELL	032270	54.68	–2.45	7	1249	49
GREENOCK MRCC	031380	55.97	–4.80	5A	1659	65
GWENNAP HEAD	038060	50.03	–5.67	4A	1091	43
HAWARDEN	033210	53.17	–2.98	5A	703	28
HEMSBY	034960	52.68	1.68	5A	589	23
HERSTMONCEUX	038820	50.90	0.32	4A	802	32
HERSTMONCEUX	038840	50.87	0.33	5A	802	32
HIGH WYCOMBE HQSTC	036600	51.68	–0.80	5A	660	26
HILLSBOROUGH	039200	54.48	–6.10	5A	1021	40
HOLBEACH	034690	52.87	0.15	5A	592	23
HONINGTON	035860	52.33	0.77	5A	608	24
HYSKEIR (LGT-H)	030240	56.97	–6.68	5A	1515	60
INVERBERVIE NO.2	030880	56.85	–2.27	5A	810	32
INVERGORDON HARBOUR	030580	57.68	–4.17	5A	711	28
ISLE OF PORTLAND	038570	50.52	–2.45	4A	912	36
KENLEY AIRFIELD	037810	51.30	–0.08	4A	688	27
KESWICK	032120	54.62	–3.17	5A	1364	54
KINLOSS	030660	57.65	–3.57	5A	629	25
KIRKWALL AIRPORT	030170	58.95	–2.90	5A	1017	40
LAKENHEATH RAF	035830	52.42	0.57	4A	607	24
LAKENHEATH RAF	035833	52.40	0.57	5A	607	24
LANGDON BAY	037960	51.13	1.35	5A	696	27
LARKHILL	037430	51.20	–1.80	5A	768	30
LARNE	039280	54.85	–5.80	5A	1172	46
LECONFIELD	033820	53.87	–0.43	5A	681	27
LEEDS BRADFORD	033463	53.87	–1.65	5A	769	30
LEEDS WEATHER CTR	033470	53.80	–1.55	4A	734	29
LEEMING	032570	54.30	–1.53	5A	626	25
LERWICK	030050	60.13	–1.18	6A	1220	48
LEUCHARS	031710	56.40	–2.87	5A	666	26
LINTON-ON-OUSE	032660	54.05	–1.25	5A	658	26
LISCOMBE	037100	51.08	–3.60	5A	1457	57
LITTLE RISSINGTON	036470	51.87	–1.68	5A	714	28
LIVERPOOL	033233	53.33	–2.85	4A	774	30
LOCH GLASCARNOCH	030310	57.72	–4.88	6A	1543	61
LOFTUS SAMOS	032750	54.57	–0.87	5A	696	27
LONDON WEA CENTER	037780	51.52	–0.12	4A	586	23
LONDON WEATHER CENT	037790	51.52	–0.10	4A	586	23
LONDON/GATWICK ARPT	037760	51.15	–0.18	4A	762	30
LONDON/HEATHROW AIR	037720	51.48	–0.45	4A	602	24
LOSSIEMOUTH	030680	57.72	–3.32	5A	691	27
LOUGH FEA	039110	54.72	–6.82	5A	1137	45
LUNDY ISL (LGT-H)	037020	51.17	–4.65	4A	947	37
LUTON	036733	51.87	–0.37	5A	693	27
LYNEHAM	037400	51.50	–1.98	5A	716	28

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
MACHRIHANISH	031110	55.43	–5.70	5A	1343	53
MADLEY	035210	52.03	–2.85	5A	806	32
MANCHESTER AIRPORT	033340	53.35	–2.28	5A	832	33
MANSTON	037970	51.35	1.37	4A	576	23
MARHAM	034820	52.65	0.57	5A	623	25
MIDDLE WALLOP	037490	51.15	–1.57	4A	749	29
MILDENHALL RAF	035773	52.37	0.48	4A	586	23
MILFORD HAVEN	036040	51.70	–5.05	4A	861	34
MUCKLE FLUGGA	030010	60.85	–0.88	5A	1210	48
MUCKLE HOLM	030070	60.58	–1.27	5A	1076	42
MUMBLES	036090	51.57	–3.98	4A	1198	47
NEWCASTLE	032433	55.03	–1.68	5A	668	26
NEWCASTLE WEATHER C	032460	54.98	–1.60	5A	666	26
NEWHAVEN (LGT-H)	038800	50.78	0.05	4A	841	33
NORTH RONA	030110	59.12	–5.82	5A	1398	55
NORTHOLT	036720	51.55	–0.42	4A	602	24
NORWICH WEA CNTRE	034920	52.63	1.32	4A	648	26
NOTTINGHAM/WATNALL	033540	53.00	–1.25	5A	715	28
OBAN	031140	56.42	–5.47	5A	2131	84
ODIHAM	037610	51.23	–0.95	4A	799	31
ORSAY (LGT-H)	031020	55.67	–6.50	5A	1266	50
PEMBREY SANDS	036050	51.72	–4.37	4A	1215	48
PENDENNIS POINT	038100	50.15	–5.07	4A	1117	44
PENDINE (AUT)	036080	51.75	–4.52	4A	1212	48
PERSHORE	035290	52.15	–2.03	5A	633	25
PETERHEAD HARBOUR	030920	57.50	–1.77	5A	724	29
PLYMOUTH MOUNT BATT	038270	50.35	–4.12	4A	1004	40
PORTGLENONE	039150	54.87	–6.45	5A	1098	43
PORTLAND HELIPORT	038580	50.57	–2.45	4A	912	36
PRESTWICK RNAS	031360	55.52	–4.58	5A	949	37
PRESTWICK(CIV/NAVY)	031350	55.50	–4.58	5A	949	37
REDESDALE CAMP	032300	55.28	–2.28	5A	957	38
RHYL	033130	53.25	–3.50	4A	1007	40
SCILLY: ST MARYS AI	038030	49.92	–6.30	4A	909	36
SELLA NESS	030060	60.45	–1.27	5A	1106	44
SENNYBRIDGE	035070	52.07	–3.62	5A	1495	59
SHAP	032250	54.50	–2.68	5A	1373	54
SHAWBURY	034140	52.80	–2.67	5A	658	26
SHEERNESS	037910	51.45	0.75	4A	599	24
SHOBDON	035200	52.25	–2.88	5A	827	33
SHOEBURYNESS	036930	51.55	0.83	4A	504	20
SHOREHAM AIRPORT	038760	50.83	–0.28	4A	715	28
SKYE/LUSA	030370	57.25	–5.80	5A	2115	83
SOLENT M.R.S.C.	038740	50.80	–1.22	4A	786	31
SOUTHAMPTON WX CNTR	038650	50.90	–1.40	4A	789	31
SOUTHEND	036913	51.57	0.68	4A	558	22
SPADEADAM	032240	55.05	–2.55	5A	1226	48
ST ANGELO	039030	54.40	–7.65	5A	1300	51
ST BEES HEAD NO.2	032100	54.52	–3.60	5A	1136	45
ST. CATHERINES POIN	038660	50.58	–1.30	4A	764	30
ST. MAWGAN	038170	50.43	–5.00	4A	1148	45
STANSTED AIRPORT	036830	51.88	0.23	5A	623	25
STORNOWAY	030260	58.22	–6.32	5A	1188	47

TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation mm	Precipitation in.
STRATHALLEN AIRFIEL	031440	56.32	–3.73	5A	954	38
SULE SKERRY	030100	59.08	–4.40	5A	1278	50
SUMBURGH (CAPE)	030030	59.88	–1.30	5A	1124	44
TAIN RANGE	030620	57.82	–3.97	5A	770	30
THAMES TOWER (AUT)	036950	51.67	1.10	4A	557	22
THORNEY ISLAND	038720	50.82	–0.92	4A	793	31
TIREE	031000	56.50	–6.88	5A	1182	47
TRAWSGOED	035030	52.35	–3.95	5A	1174	46
TULLOCH BRIDGE	030470	56.87	–4.70	5A	1553	61
TYNEMOUTH	032620	55.02	–1.42	5A	646	25
UPPER HEYFORD RAF	036553	51.93	–1.25	5A	645	25
VALLEY	033020	53.25	–4.53	4A	839	33
WADDINGTON	033770	53.17	–0.52	5A	603	24
WAINFLEET	033920	53.08	0.27	5A	584	23
WALNEY ISLAND	032140	54.12	–3.25	5A	1238	49
WALTON-ON-NAZE	036960	51.85	1.28	4A	546	21
WARCOP RANGE	032260	54.57	–2.42	5A	1249	49
WATTISHAM	035900	52.12	0.97	5A	582	23
WEST FREUGH	031320	54.85	–4.95	5A	977	38
WEYBOURNE	034880	52.95	1.13	4A	667	26
WICK	030750	58.45	–3.08	5A	787	31
WITTERING	034620	52.62	–0.47	5A	580	23
WYTON(RAF)	035660	52.35	–0.12	5A	537	21
YEOVILTON	038530	51.00	–2.63	4A	727	29
Uruguay (URY)						
ARTIGAS	863300	–30.38	–56.50	3A	1486	59
CARRASCO	865800	–34.83	–56.00	3A	950	37
COLONIA	865600	–34.45	–57.83	3A	1108	44
PASO DE LOS TOROS	864600	–32.80	–56.52	3A	1315	52
PRADO	865850	–34.85	–56.20	3A	1069	42
RIVERA	863500	–30.88	–55.53	3A	1500	59
ROCHA	865650	–34.48	–54.30	3A	1051	41
SALTO	863600	–31.38	–57.95	3A	1264	50
TREINTA Y TRES	865000	–33.22	–54.38	3A	1335	53
Uzbekistan (UZB)						
AK-BAJTAL	381780	43.15	64.33	5B	117	5
BUHARA	386830	39.72	64.62	4B	146	6
BUZAUBAJ	384030	41.75	62.47	4B	88	3
CHIMBAJ	382620	42.95	59.82	5B	120	5
DARGANATA	385450	40.47	62.28	4B	140	6
DZIZAK	385790	40.12	67.83	4B	385	15
FERGANA	386180	40.37	71.75	4B	175	7
KARSHI	388120	38.80	65.72	3B	253	10
KUNGRAD	381490	43.08	58.93	5B	118	5
NAMANGAN	386110	40.98	71.58	4B	189	7
NUKUS	382640	42.45	59.62	5B	106	4
NURATA	385650	40.55	65.68	4B	238	9
PSKEM	384620	41.90	70.37	5C	854	34
SAMARKAND	386960	39.57	66.95	4B	340	13
SYR-DARJA	385830	40.82	68.68	4A	312	12
TAMDY	384130	41.73	64.62	4B	127	5
TASHKENT	384570	41.27	69.27	4A	435	17
TERMEZ	389270	37.23	67.27	3B	148	6
URGENCH	383960	41.57	60.57	4B	92	4

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TABLE A-6 International Stations and Climate Zones *(Continued)*
(Note: Design Conditions tables [SI and I-P] for each station, named by WMO#, can be accessed online at www.ashrae.org/169_2013data.)

Country/LOCATION	WMO#	Lat	Long	CZ	Precipitation	
					mm	in.
Vanuatu (VUT)						
ANEITYUM	915680	–20.23	169.77	1A	1416	56
BAUERFIELD (EFATE)	915570	–17.70	168.30	1A	2249	89
PEKOA AIRPORT (SANTO)	915540	–15.52	167.22	1A	2823	111
Venezuela (VEN)						
CARACAS/MAIQUETIA A	804150	10.60	–66.98	0B	492	19
GUANARE	804280	9.02	–69.73	0A	1403	55
SAN ANTONIO DEL TAC	804470	7.85	–72.45	0A	746	29
Viet Nam (VNM)						
BACH LONG VI	488390	20.13	107.72	1A	1719	68
CA MAU	489140	9.18	105.15	0A	2379	94
CAO BANG	488080	22.67	106.25	2A	1536	60
CON SON	489180	8.68	106.60	0A	1781	70
DA NANG	488550	16.07	108.35	1A	2350	93
DONG HOI	488480	17.48	106.60	1A	2247	88
HA NOI	488200	21.03	105.80	1A	1652	65
HUE	488520	16.43	107.58	1A	2846	112
LANG SON	488300	21.83	106.77	2A	1426	56
LAO CAI	488030	22.50	103.97	1A	2178	86
NAM DINH	488230	20.43	106.15	1A	1802	71
NHA TRANG	488770	12.22	109.22	0A	1471	58
PHAN THIET	488870	10.93	108.10	0A	1153	45
PHU LIEN	488260	20.80	106.63	1A	1718	68
PHU QUOC	489170	10.22	103.97	0A	2380	94
QUY NHON	488700	13.77	109.22	0A	2053	81
SON LA	488060	21.33	103.90	2A	1422	56
TAN SON HOA	489000	10.82	106.67	0A	1862	73
THANH HOA	488400	19.75	105.78	1A	1748	69
VINH	488450	18.67	105.68	1A	2125	84
Wallis and Futuna (WLF)						
HIHIFO (ILE WALLIS)	917530	–13.23	–176.17	0A	2132	84
MAOPOOPO (ILE FUTUNA)	917540	–14.32	–178.12	0A	1989	78
Zimbabwe (ZWE)						
HARARE (KUTSAGA)	677750	–17.92	31.13	3A	803	32
MASVINGO	679750	–20.07	30.87	2B	605	24

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(This is a normative appendix and is part of this standard.)

NORMATIVE APPENDIX B
CLIMATE ZONES FOR U.S. STATES AND COUNTIES

This normative appendix provides the climate zones for U.S. states and counties. Figure B-1 contains the county-level climate zone map for the United States. Table B-1 lists each state and major counties within the state and shows the climate number and letter for each county listed.

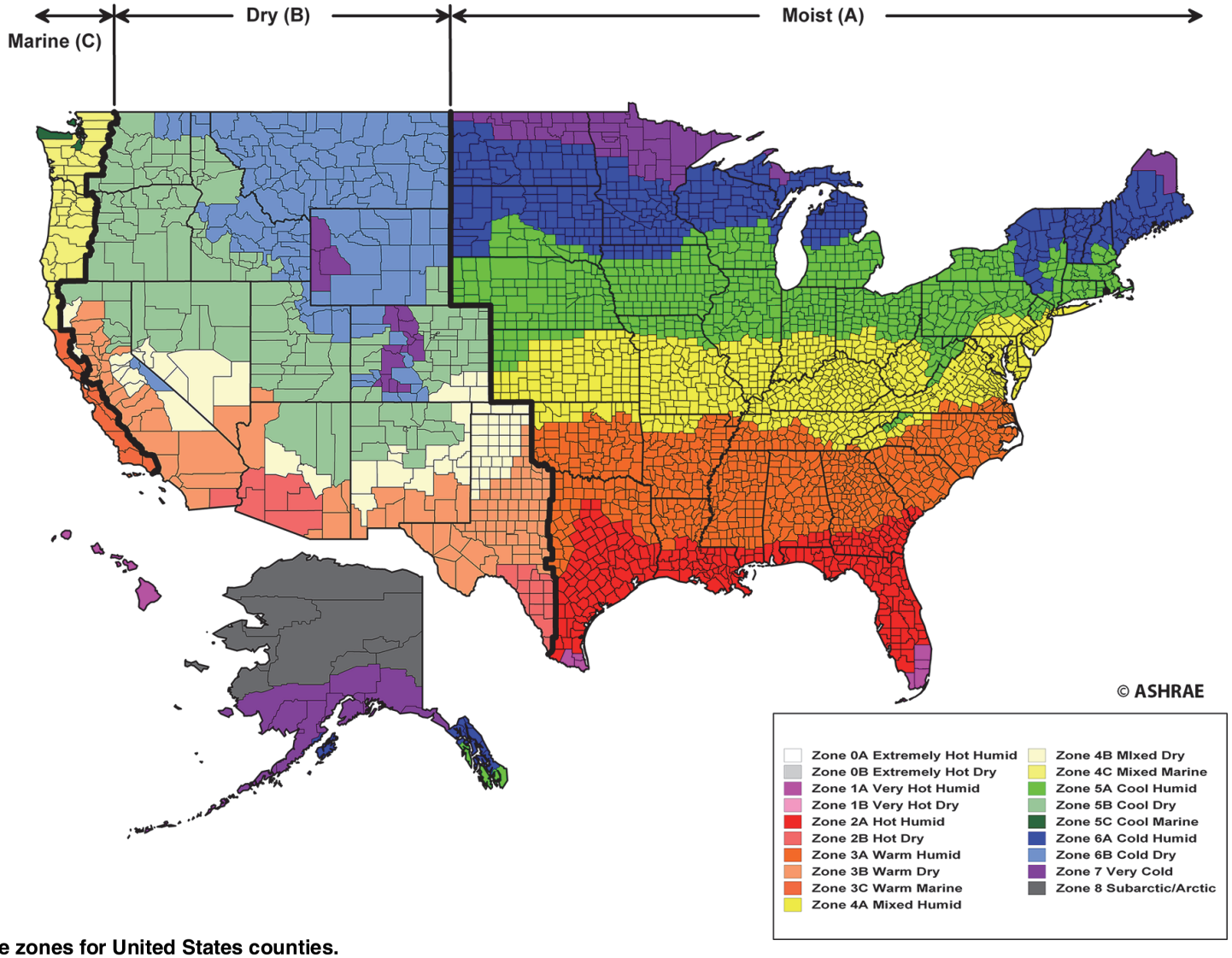

FIGURE B-1 Climate zones for United States counties.

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Alabama (AL)	
Zone 3A except...	
Baldwin	2A
Coffee	2A
Covington	2A
Dale	2A
Escambia	2A
Geneva	2A
Henry	2A
Houston	2A
Mobile	2A
Alaska (AK)	
Zone 7 except...	
Ketchikan Gateway	5A
Prince of Wales-Outer Ketchikan	5A
Sitka	6A
Haines	6A
Juneau	6A
Kodiak Island	6A
Skagway-Hoonah-Angoon	6A
Wrangell-Petersburg	8
Denali	8
Fairbanks North Star	8
Nome	8
North Slope	8
Northwest Arctic	8
Southeast Fairbanks	8
Wade Hampton	8
Yukon-Koyukuk	8
Arizona (AZ)	
Zone 3B except...	
La Paz	2B
Maricopa	2B
Pima	2B
Pinal	2B
Yuma	2B
Gila	4B
Yavapai	4B
Apache	5B
Coconino	5B
Navajo	5B

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Arkansas (AR)	
Zone 3A except...	
Baxter	4A
Benton	4A
Boone	4A
Carroll	4A
Fulton	4A
Izard	4A
Madison	4A
Marion	4A
Newton	4A
Searcy	4A
Stone	4A
Washington	4A
California (CA)	
Zone 3B except...	
Imperial	2B
Alameda	3C
Marin	3C
Mendocino	3C
Monterey	3C
Napa	3C
San Benito	3C
San Francisco	3C
San Luis Obispo	3C
San Mateo	3C
Santa Barbara	3C
Santa Clara	3C
Santa Cruz	3C
Sonoma	3C
Ventura	3C
Amador	4B
Calaveras	4B
El Dorado	4B
Inyo	4B
Lake	4B
Mariposa	4B
Trinity	4B
Tuolumne	4B
Del Norte	4C
Humboldt	4C

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Lassen	5B
Modoc	5B
Nevada	5B
Plumas	5B
Sierra	5B
Siskiyou	5B
Alpine	6B
Mono	6B
Colorado (CO)	
Zone 5B except...	
Baca	4B
Bent	4B
Las Animas	4B
Otero	4B
Prowers	4B
Alamosa	6B
Archuleta	6B
Chaffee	6B
Conejos	6B
Costilla	6B
Dolores	6B
Eagle	6B
Moffat	6B
Ouray	6B
Rio Blanco	6B
Saguache	6B
San Miguel	6B
Clear Creek	7
Grand	7
Gunnison	7
Hinsdale	7
Jackson	7
Lake	7
Mineral	7
Park	7
Pitkin	7
Rio Grande	7
Routt	7
San Juan	7
Summit	7

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Connecticut (CT)	
Zone 5A	
Delaware (DE)	
Zone 4A	
District of Columbia (DC)	
Zone 4A	
Florida (FL)	
Zone 2A except...	
Broward	1A
Miami-Dade	1A
Monroe	1A
Palm Beach	1A
Georgia (GA)	
Zone 3A except...	
Appling	2A
Atkinson	2A
Bacon	2A
Baker	2A
Berrien	2A
Brantley	2A
Brooks	2A
Bryan	2A
Calhoun	2A
Camden	2A
Charlton	2A
Chatham	2A
Clinch	2A
Coffee	2A
Colquitt	2A
Cook	2A
Decatur	2A
Dougherty	2A
Early	2A
Echols	2A
Effingham	2A
Evans	2A
Glynn	2A
Grady	2A
Irwin	2A
Jeff Davis	2A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Lanier	2A
Liberty	2A
Long	2A
Lowndes	2A
McIntosh	2A
Miller	2A
Mitchell	2A
Pierce	2A
Seminole	2A
Tattnall	2A
Thomas	2A
Tift	2A
Toombs	2A
Ware	2A
Wayne	2A
Worth	2A
Hawaii (HI)	
Zone 1A	
Idaho (ID)	
Zone 6B except...	
Ada	5B
Benewah	5B
Canyon	5B
Cassia	5B
Clearwater	5B
Elmore	5B
Gem	5B
Gooding	5B
Idaho	5B
Jerome	5B
Kootenai	5B
Latah	5B
Lewis	5B
Lincoln	5B
Minidoka	5B
Nez Perce	5B
Owyhee	5B
Payette	5B
Power	5B
Shoshone	5B
Twin Falls	5B
Washington	5B

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Illinois (IL)	
Zone 5A except...	
Alexander	4A
Bond	4A
Calhoun	4A
Christian	4A
Clark	4A
Clay	4A
Clinton	4A
Coles	4A
Crawford	4A
Cumberland	4A
Edwards	4A
Effingham	4A
Fayette	4A
Franklin	4A
Gallatin	4A
Greene	4A
Hamilton	4A
Hardin	4A
Jackson	4A
Jasper	4A
Jefferson	4A
Jersey	4A
Johnson	4A
Lawrence	4A
Macoupin	4A
Madison	4A
Marion	4A
Massac	4A
Monroe	4A
Montgomery	4A
Perry	4A
Pope	4A
Pulaski	4A
Randolph	4A
Richland	4A
Saline	4A
Shelby	4A
St. Clair	4A
Union	4A
Wabash	4A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Washington	4A
Wayne	4A
White	4A
Williamson	4A
Indiana (IN)	
Zone 5A except...	
Bartholomew	4A
Brown	4A
Clark	4A
Clay	4A
Crawford	4A
Daviess	4A
Dearborn	4A
Decatur	4A
Dubois	4A
Fayette	4A
Floyd	4A
Franklin	4A
Gibson	4A
Greene	4A
Harrison	4A
Hendricks	4A
Jackson	4A
Jefferson	4A
Jennings	4A
Johnson	4A
Knox	4A
Lawrence	4A
Marion	4A
Martin	4A
Monroe	4A
Morgan	4A
Ohio	4A
Orange	4A
Owen	4A
Perry	4A
Pike	4A
Posey	4A
Putnam	4A
Ripley	4A
Rush	4A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Scott	4A
Shelby	4A
Spencer	4A
Sullivan	4A
Switzerland	4A
Union	4A
Vanderburgh	4A
Vigo	4A
Warrick	4A
Washington	4A
Iowa (IA)	
Zone 5A except...	
Cerro Gordo	6A
Clay	6A
Dickinson	6A
Emmet	6A
Hancock	6A
Kossuth	6A
Lyon	6A
Mitchell	6A
O'Brien	6A
Osceola	6A
Palo Alto	6A
Sioux	6A
Winnebago	6A
Worth	6A
Kansas (KS)	
Zone 4A except...	
Cheyenne	5A
Decatur	5A
Gove	5A
Greeley	5A
Jewell	5A
Logan	5A
Norton	5A
Phillips	5A
Rawlins	5A
Republic	5A
Scott	5A
Sheridan	5A
Sherman	5A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Smith	5A
Thomas	5A
Wallace	5A
Wichita	5A
Kentucky (KY)	
Zone 4A	
Louisiana (LA)	
Zone 2A except...	
Bienville Parish	3A
Bossier Parish	3A
Caddo Parish	3A
Caldwell Parish	3A
Catahoula Parish	3A
Claiborne Parish	3A
Concordia Parish	3A
De Soto Parish	3A
East Carroll Parish	3A
Franklin Parish	3A
Grant Parish	3A
Jackson Parish	3A
La Salle Parish	3A
Lincoln Parish	3A
Madison Parish	3A
Morehouse Parish	3A
Natchitoches Parish	3A
Ouachita Parish	3A
Red River Parish	3A
Richland Parish	3A
Sabine Parish	3A
Tensas Parish	3A
Union Parish	3A
Vernon Parish	3A
Webster Parish	3A
West Carroll Parish	3A
Winn Parish	3A
Maine (ME)	
Zone 6A except...	
Aroostook	7
Maryland (MD)	
Zone 4A except...	
Allegany	5A
Garrett	5A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Massachusetts (MA)	
Zone 5A	
Michigan (MI)	
Zone 5A except...	
Alcona	6A
Alger	6A
Alpena	6A
Antrim	6A
Arenac	6A
Baraga	6A
Benzie	6A
Charlevoix	6A
Cheboygan	6A
Chippewa	6A
Clare	6A
Crawford	6A
Delta	6A
Dickinson	6A
Emmet	6A
Gladwin	6A
Gogebic	6A
Grand Traverse	6A
Houghton	6A
Iosco	6A
Iron	6A
Isabella	6A
Kalkaska	6A
Lake	6A
Leelanau	6A
Luce	6A
Mackinac	6A
Manistee	6A
Mason	6A
Mecosta	6A
Menominee	6A
Missaukee	6A
Montmorency	6A
Newaygo	6A
Oceana	6A
Ogemaw	6A
Ontonagon	6A
Osceola	6A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Oscoda	6A
Otsego	6A
Presque Isle	6A
Roscommon	6A
Schoolcraft	6A
Wexford	6A
Keweenaw	7
Marquette	7
Minnesota (MN)	
Zone 6A except...	
Fillmore	5A
Houston	5A
Winona	5A
Aitkin	7
Beltrami	7
Carlton	7
Cass	7
Clearwater	7
Cook	7
Crow Wing	7
Hubbard	7
Itasca	7
Kittson	7
Koochiching	7
Lake	7
Lake of the Woods	7
Mahnomen	7
Marshall	7
Norman	7
Pennington	7
Pine	7
Polk	7
Red Lake	7
Roseau	7
St. Louis	7
Wadena	7
Mississippi (MS)	
Zone 3A except...	
George	2A
Hancock	2A
Harrison	2A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Jackson	2A
Pearl River	2A
Stone	2A
Missouri (MO)	
Zone 4A except...	
Dunklin	3A
Pemiscot	3A
Adair	5A
Andrew	5A
Atchison	5A
Clark	5A
Daviess	5A
DeKalb	5A
Gentry	5A
Grundy	5A
Harrison	5A
Holt	5A
Knox	5A
Lewis	5A
Linn	5A
Livingston	5A
Macon	5A
Marion	5A
Mercer	5A
Nodaway	5A
Pike	5A
Putnam	5A
Ralls	5A
Schuyler	5A
Scotland	5A
Shelby	5A
Sullivan	5A
Worth	5A
Montana (MT)	
Zone 6B	
Nebraska (NE)	
Zone 5A	
Nevada (NV)	
Zone 5B except...	
Clark	3B
Carson City	4B

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Douglas	4B
Esmeralda	4B
Lincoln	4B
Lyon	4B
Mineral	4B
Nye	4B
New Hampshire (NH)	
Zone 6A except...	
Hillsborough	5A
Merrimack	5A
Rockingham	5A
Strafford	5A
New Jersey (NJ)	
Zone 4A except...	
Bergen	5A
Hunterdon	5A
Morris	5A
Passaic	5A
Somerset	5A
Sussex	5A
Warren	5A
New Mexico (NM)	
Zone 5B except...	
Chaves	3B
Dona Ana	3B
Eddy	3B
Hidalgo	3B
Lea	3B
Luna	3B
Otero	3B
Sierra	3B
Bernalillo	4B
Catron	4B
Curry	4B
DeBaca	4B
Grant	4B
Guadalupe	4B
Lincoln	4B
Quay	4B
Roosevelt	4B
Socorro	4B

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Union	4B
Valencia	4B
New York (NY)	
Zone 5A except...	
Bronx	4A
Kings	4A
Nassau	4A
New York	4A
Queens	4A
Richmond	4A
Suffolk	4A
Chenango	6A
Clinton	6A
Delaware	6A
Essex	6A
Franklin	6A
Fulton	6A
Hamilton	6A
Herkimer	6A
Jefferson	6A
Lewis	6A
Madison	6A
Montgomery	6A
Oneida	6A
Otsego	6A
St. Lawrence	6A
Sullivan	6A
Ulster	6A
Warren	6A
North Carolina (NC)	
Zone 3A except...	
Alleghany	5A
Ashe	5A
Avery	5A
Buncombe	4A
Burke	4A
Caldwell	4A
Graham	4A
Haywood	4A
Henderson	4A
Jackson	4A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Macon	4A
Madison	4A
McDowell	4A
Mitchell	4A
Stokes	4A
Surry	4A
Swain	4A
Transylvania	4A
Watauga	5A
Wilkes	5A
Yadkin	4A
Yancy	5A
North Dakota (ND)	
Zone 6A except...	
Benson	7
Bottineau	7
Burke	7
Cavalier	7
Divide	7
Grand Forks	7
McHenry	7
Nelson	7
Pembina	7
Pierce	7
Ramsey	7
Renville	7
Rolette	7
Towner	7
Walsh	7
Ward	7
Ohio (OH)	
Zone 5A except...	
Adams	4A
Athens	4A
Brown	4A
Butler	4A
Clermont	4A
Clinton	4A
Fayette	4A
Franklin	4A
Gallia	4A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Greene	4A
Hamilton	4A
Highland	4A
Hocking	4A
Jackson	4A
Lawrence	4A
Madison	4A
Meigs	4A
Pickaway	4A
Pike	4A
Ross	4A
Scioto	4A
Vinton	4A
Warren	4A
Washington	4A
Oklahoma (OK)	
Zone 3A except...	
Alfalfa	4A
Craig	4A
Delaware	4A
Ellis	4A
Garfield	4A
Grant	4A
Harper	4A
Kay	4A
Major	4A
Nowata	4A
Osage	4A
Ottawa	4A
Washington	4A
Woods	4A
Woodward	4A
Beaver	4B
Cimarron	4B
Texas	4B
Oregon (OR)	
Zone 4C except...	
Baker	5B
Crook	5B
Deschutes	5B
Gilliam	5B

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Grant	5B
Harney	5B
Hood River	5B
Jefferson	5B
Klamath	5B
Lake	5B
Malheur	5B
Morrow	5B
Sherman	5B
Umatilla	5B
Union	5B
Wallowa	5B
Wasco	5B
Wheeler	5B
Pennsylvania (PA)	
Zone 5A except...	
Adams	4A
Berks	4A
Bucks	4A
Chester	4A
Cumberland	4A
Dauphin	4A
Delaware	4A
Franklin	4A
Lancaster	4A
Lebanon	4A
Montgomery	4A
Perry	4A
Philadelphia	4A
York	4A
Rhode Island (RH)	
Zone 5A	
South Carolina (SC)	
Zone 3A except...	
Beaufort	2A
Jasper	2A
South Dakota (SD)	
Zone 6A except...	
Bennett	5A
Bon Homme	5A
Brule	5A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Charles Mix	5A
Clay	5A
Douglas	5A
Gregory	5A
Haakon	5A
Hutchinson	5A
Jackson	5A
Jones	5A
Lyman	5A
Mellette	5A
Stanley	5A
Todd	5A
Tripp	5A
Union	5A
Yankton	5A
Tennessee (TN)	
Zone 4A except...	
Bedford	3A
Chester	3A
Coffee	3A
Crockett	3A
Davidson	3A
Decatur	3A
Dyer	3A
Fayette	3A
Franklin	3A
Gibson	3A
Giles	3A
Grundy	3A
Hamilton	3A
Hardeman	3A
Hardin	3A
Haywood	3A
Henderson	3A
Hickman	3A
Lauderdale	3A
Lawrence	3A
Lewis	3A
Lincoln	3A
Madison	3A
Marion	3A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Marshall	3A
Maury	3A
McNairy	3A
Moore	3A
Perry	3A
Rutherford	3A
Shelby	3A
Tipton	3A
Wayne	3A
Williamson	3A
Texas (TX)	
Zone 3A except...	
Cameron	1A
Hidalgo	1A
Willacy	1A
Anderson	2A
Angelina	2A
Aransas	2A
Atascosa	2A
Austin	2A
Bastrop	2A
Bee	2A
Bell	2A
Bexar	2A
Bosque	2A
Brazoria	2A
Brazos	2A
Brooks	2A
Burleson	2A
Caldwell	2A
Calhoun	2A
Chambers	2A
Cherokee	2A
Colorado	2A
Comal	2A
Coryell	2A
Dallas	2A
DeWitt	2A
Duval	2A
Ellis	2A
Falls	2A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Fayette	2A
Fort Bend	2A
Freestone	2A
Galveston	2A
Goliad	2A
Gonzales	2A
Grimes	2A
Guadalupe	2A
Hardin	2A
Harris	2A
Hays	2A
Hill	2A
Houston	2A
Jackson	2A
Jasper	2A
Jefferson	2A
Jim Hogg	2A
Jim Wells	2A
Johnson	2A
Karnes	2A
Kenedy	2A
Kleberg	2A
Lavaca	2A
Lee	2A
Leon	2A
Liberty	2A
Limestone	2A
Live Oak	2A
Madison	2A
Matagorda	2A
McLennan	2A
McMullen	2A
Milam	2A
Montgomery	2A
Navarro	2A
Newton	2A
Nueces	2A
Orange	2A
Polk	2A
Refugio	2A
Robertson	2A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
San Jacinto	2A
San Patricio	2A
Starr	2A
Tarrant	2A
Travis	2A
Trinity	2A
Tyler	2A
Victoria	2A
Walker	2A
Waller	2A
Washington	2A
Wharton	2A
Williamson	2A
Wilson	2A
Bandera	2B
Dimmit	2B
Edwards	2B
Frio	2B
Kinney	2B
La Salle	2B
Maverick	2B
Medina	2B
Real	2B
Uvalde	2B
Val Verde	2B
Webb	2B
Zapata	2B
Zavala	2B
Andrews	3B
Baylor	3B
Borden	3B
Brewster	3B
Callahan	3B
Childress	3B
Coke	3B
Coleman	3B
Collingsworth	3B
Concho	3B
Cottle	3B
Crane	3B
Crockett	3B

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Crosby	3B
Culberson	3B
Dawson	3B
Dickens	3B
Ector	3B
El Paso	3B
Fisher	3B
Foard	3B
Gaines	3B
Garza	3B
Glasscock	3B
Hall	3B
Hardeman	3B
Haskell	3B
Hemphill	3B
Howard	3B
Hudspeth	3B
Irion	3B
Jeff Davis	3B
Jones	3B
Kent	3B
Kerr	3B
Kimble	3B
King	3B
Knox	3B
Loving	3B
Lubbock	3B
Lynn	3B
Martin	3B
Mason	3B
McCulloch	3B
Menard	3B
Midland	3B
Mitchell	3B
Motley	3B
Nolan	3B
Pecos	3B
Presidio	3B
Reagan	3B
Reeves	3B
Runnels	3B

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Schleicher	3B
Scurry	3B
Shackelford	3B
Sterling	3B
Stonewall	3B
Sutton	3B
Taylor	3B
Terrell	3B
Terry	3B
Throckmorton	3B
Tom Green	3B
Upton	3B
Ward	3B
Wheeler	3B
Wilbarger	3B
Winkler	3B
Armstrong	4B
Bailey	4B
Briscoe	4B
Carson	4B
Castro	4B
Cochran	4B
Dallam	4B
Deaf Smith	4B
Donley	4B
Floyd	4B
Gray	4B
Hale	4B
Hansford	4B
Hartley	4B
Hockley	4B
Hutchinson	4B
Lamb	4B
Lipscomb	4B
Moore	4B
Ochiltree	4B
Oldham	4B
Parmer	4B
Potter	4B
Randall	4B
Roberts	4B

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Sherman	4B
Swisher	4B
Yoakum	4B
Utah (UT)	
Zone 5B except...	
Washington	3B
Daggett	6B
Duchesne	6B
Morgan	6B
Rich	6B
Summit	6B
Uintah	6B
Wasatch	6B
Vermont (VT)	
Zone 6A	
Virginia (VA)	
Zone 4A except...	
Alleghany	5A
Bath	5A
Brunswick	3A
Chesapeake city	3A
Clifton Forge city	5A
Covington city	5A
Emporia city	3A
Franklin city	3A
Greensville	3A
Halifax	3A
Hampton city	3A
Highland	5A
Isle of Wight	3A
Mecklenburg	3A
Newport News city	3A
Norfolk city	3A
Pittsylvania	3A
Portsmouth city	3A
South Boston	3A
Southampton	3A
Suffolk city	3A
Surry	3A
Sussex	3A
Virginia Beach city	3A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Washington (WA)	
Zone 5B except...	
Clark	4C
Cowlitz	4C
Grays Harbor	4C
Jefferson	4C
King	4C
Lewis	4C
Mason	4C
Pacific	4C
Pierce	4C
Skagit	4C
Snohomish	4C
Thurston	4C
Wahkiakum	4C
Whatcom	4C
Clallam	5C
Island	5C
Kitsap	5C
San Juan	5C
Ferry	6B
Pend Oreille	6B
Stevens	6B
West Virginia (WV)	
Zone 4A except...	
Berkeley	4A
Boone	4A
Braxton	4A
Cabell	4A
Calhoun	4A
Clay	4A
Doddridge	4A
Fayette	4A
Gilmer	4A
Greenbrier	4A
Jackson	4A
Jefferson	4A
Kanawha	4A
Lewis	4A
Lincoln	4A
Logan	4A

TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Mason	4A
McDowell	4A
Mercer	4A
Mingo	4A
Monroe	4A
Morgan	4A
Nicholas	4A
Pleasants	4A
Putnam	4A
Raleigh	4A
Ritchie	4A
Roane	4A
Summers	4A
Tyler	4A
Upshur	4A
Wayne	4A
Webster	4A
Wirt	4A
Wood	4A
Wyoming	4A
Wisconsin (WI)	
Zone 6A except...	
Adams	5A
Calumet	5A
Columbia	5A
Crawford	5A
Dane	5A
Dodge	5A
Fond du Lac	5A
Grant	5A
Green	5A
Green Lake	5A
Iowa	5A
Jefferson	5A
Juneau	5A
Kenosha	5A
La Crosse	5A
Lafayette	5A
Milwaukee	5A
Monroe	5A
Outagamie	5A

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TABLE B-1 U.S. Climate Zones by State and County

State/County	Zone
Ozaukee	5A
Racine	5A
Richland	5A
Rock	5A
Sauk	5A
Vernon	5A
Walworth	5A
Washington	5A
Waukesha	5A
Waushara	5A
Winnebago	5A
Wyoming (WY)	
Zone 6B except...	
Goshen	5B
Laramie	5B
Platte	5B
Lincoln	7
Sublette	7
Teton	7
Commonwealth/Municipality	**Zone**
Puerto Rico (PR)	
Zone 1A except...	
Barraquitas	2B
Cayey	2B
Other	**Zone**
Pacific Islands (PI)	
Zone 1A except...	
Midway Sand Island	2A
Virgin Islands (VI)	
Zone 1A	

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INFORMATIVE APPENDIX C
CLIMATE ZONE MAPS

This informative appendix provides climate zone maps for major countries and continents and/or major regions. The data for global climate zones was obtained from NASA's Atmospheric Science Data Center (Internet: http://eosweb.larc.nasa.gov/sse/). The NASA Surface meteorology and Solar Energy (SSE) Release 6.0 Data Set (Jan 2008) was used. The period of record for the data set was from July 1983 to June 2005, 22 years. The data were averaged over 1×1 degree regions with 64,000 regions or tiles covering the globe. Three parameters were used in the production of the maps: heating degree-days base 65°F (HDD65) (18°C [HDD18]), cooling degree-days base 50°F (CDD50) (10°C [CDD10]), and monthly averaged daily precipitation (mm/day). Climate zoning was based on the definitions found in Normative Appendix A. The zoning criteria were applied to each tile. Areas over large bodies of water were not zoned.

Some maps show ground station locations superimposed on the climate zone grid. Given that a 1×1 degree tile can be quite large and enclose several geographic or topographic features that can affect temperature and precipitation, it is possible that the climate zone classification for a grid tile can be different from the classification determined for a ground station reporting surface observations within the tile. If there is a difference between the zoning of a grid tile and the zoning of a ground station, the ground station zoning shall be assumed to be correct. All the data for the ground stations shown in the maps can be found in the standard. The locations of all ground stations are given in Table A-4. Determining the size of the footprint of a ground station—how far away the ground station data can be used with confidence—requires local knowledge and is left to the judgement of the user.

Notes regarding the maps: All maps use a Robinson-Sterling projection unless otherwise indicated. All maps are included in separate, high-resolution, electronic files online at www.ashrae.org/169_2013data. Climate zones for the United States are defined in Normative Appendix B, Table B-1, and Figure B1.

The following maps are provided for information purposes only. The continents are shown first (with the exception of Antarctica, which is Climate Zone 8), followed by a few larger countries or regions with diverse climate zones, including Brazil, Canada, China, the Indian subcontinent (Bangladesh, India, Pakistan, and Sri Lanka), and Russia.

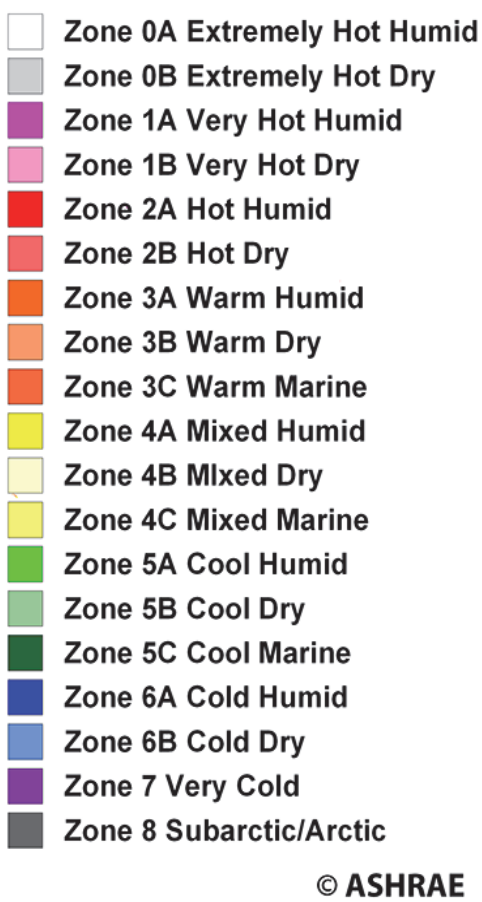

FIGURE C-1 Legend for climate zones maps.

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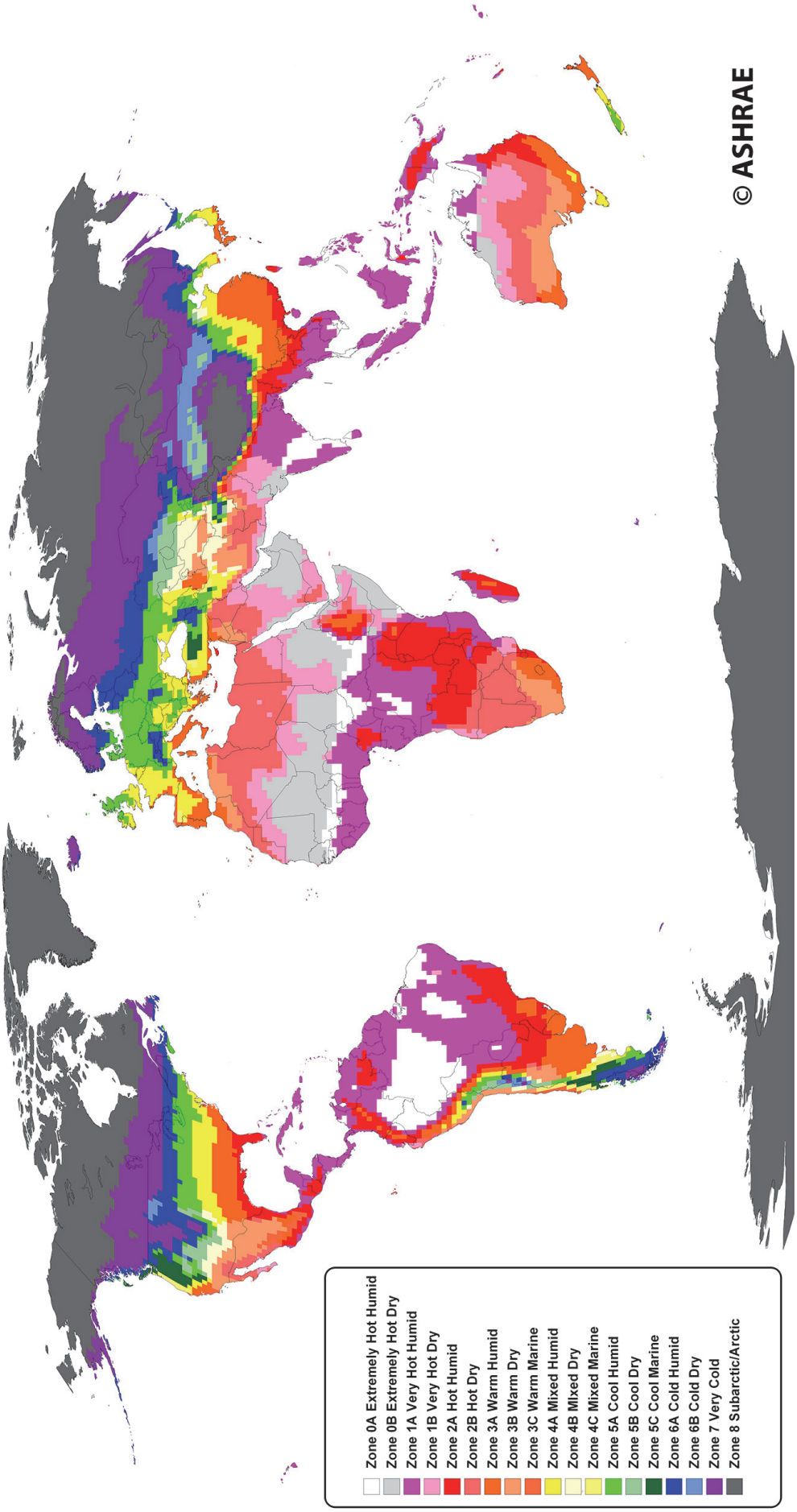

FIGURE C-2 World climate zones map.

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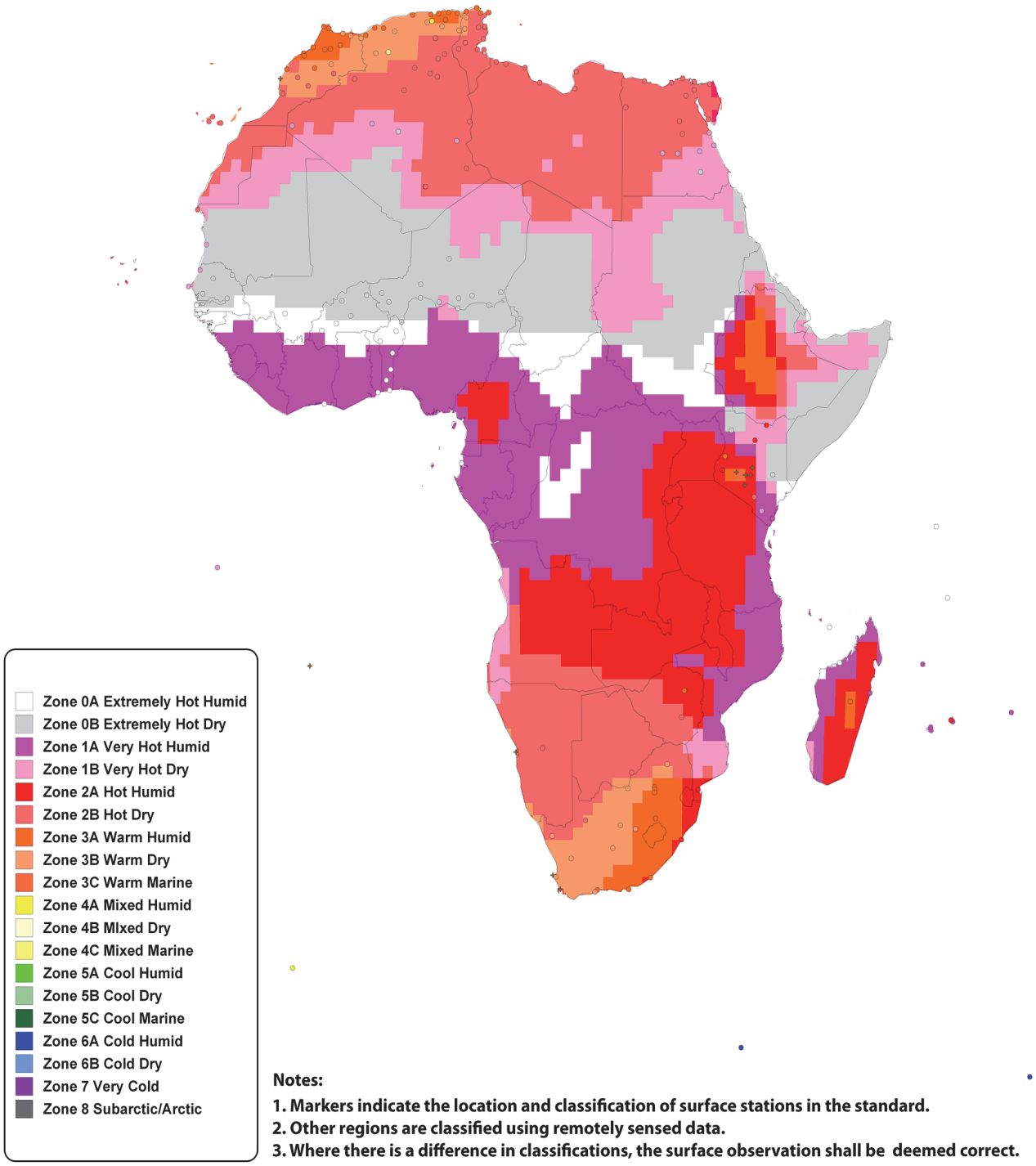

FIGURE C-3 Africa climate zones map.

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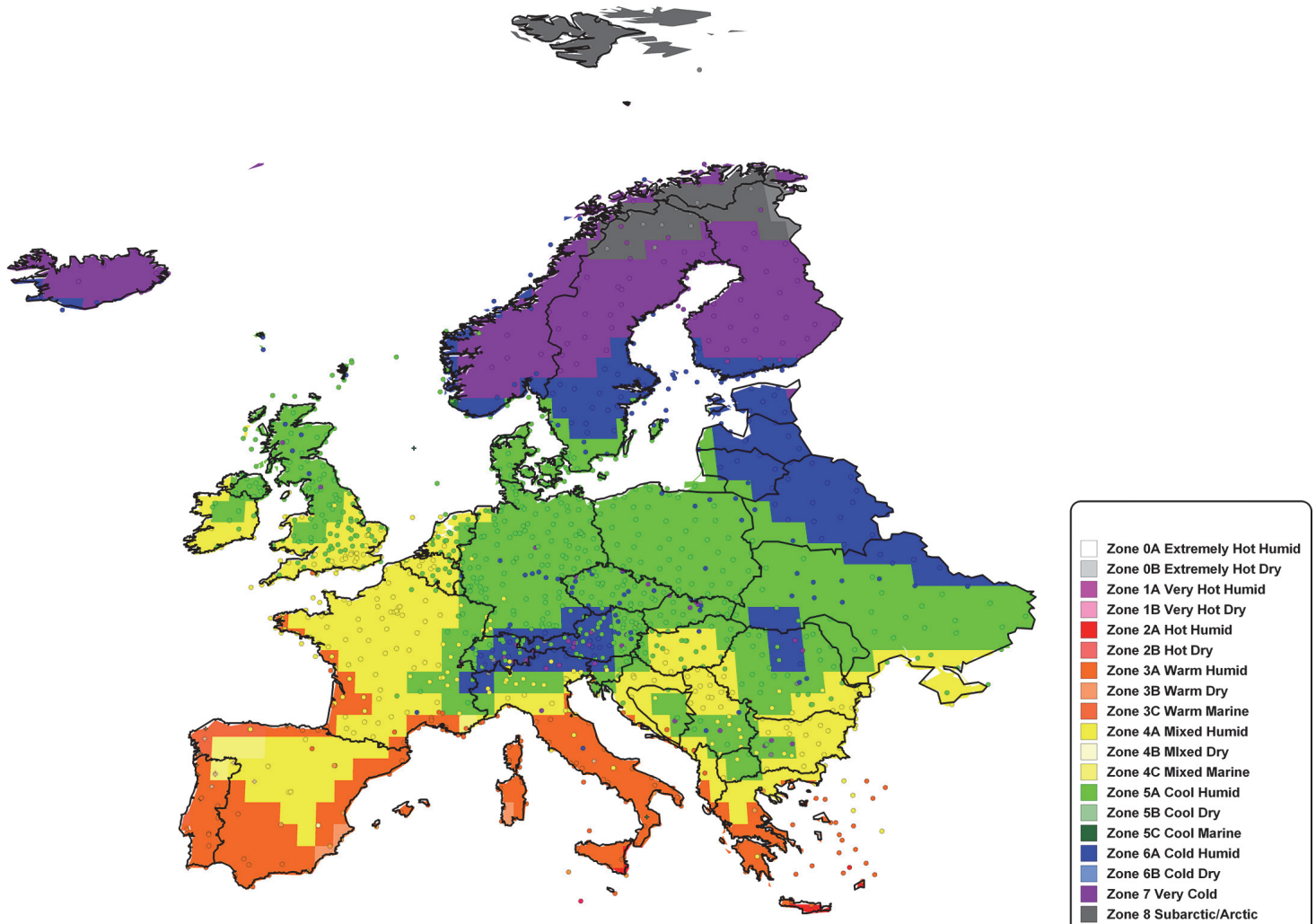

Notes:

1. Markers indicate the location and classification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a diference in classifications, the surface observation shall be deemed correct.
4. European Russia is not included in this European map. A map of Russia is provided as part of the individual country maps.

FIGURE C-4 Europe climate zones map.

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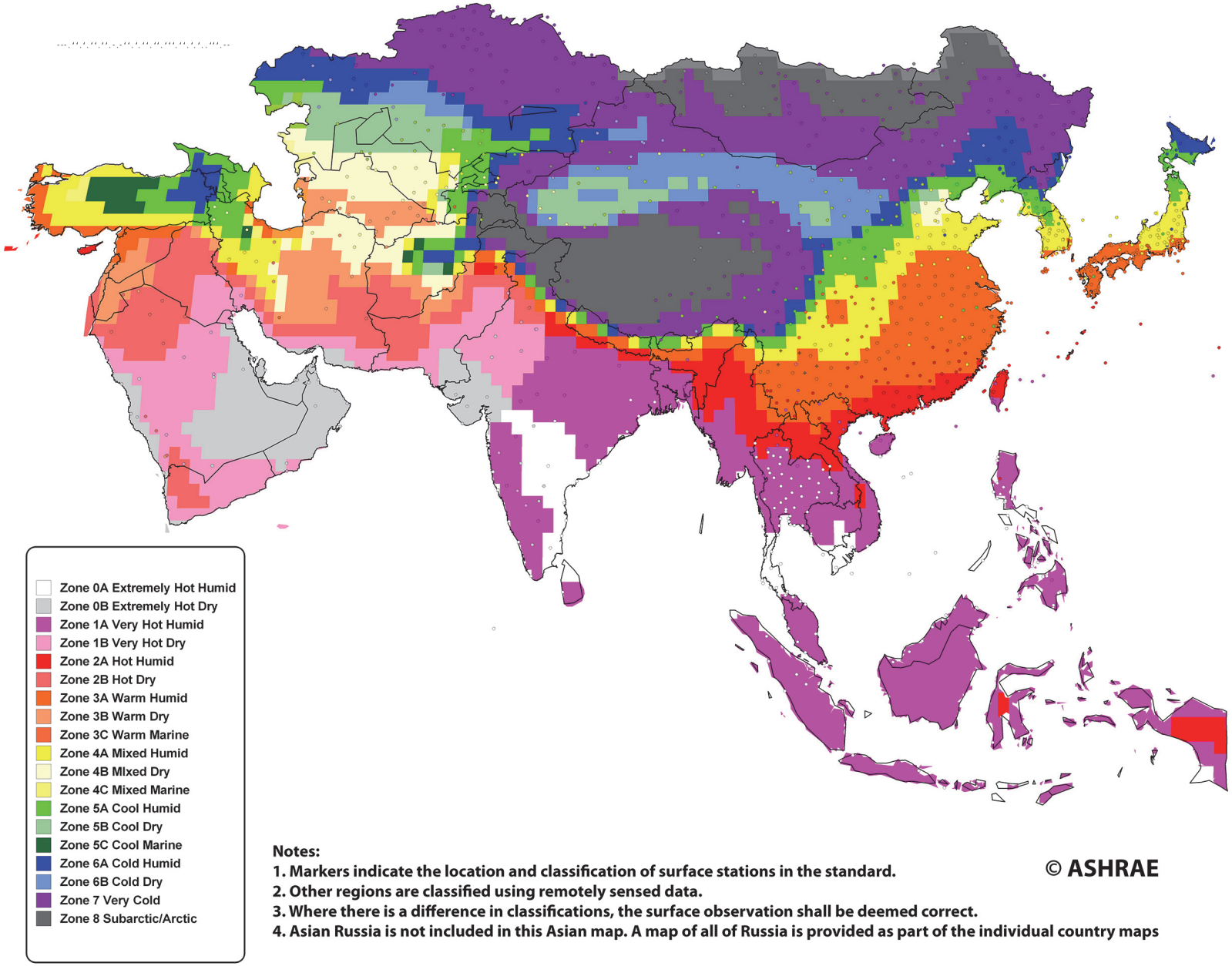

FIGURE C-5 Asia climate zones map.

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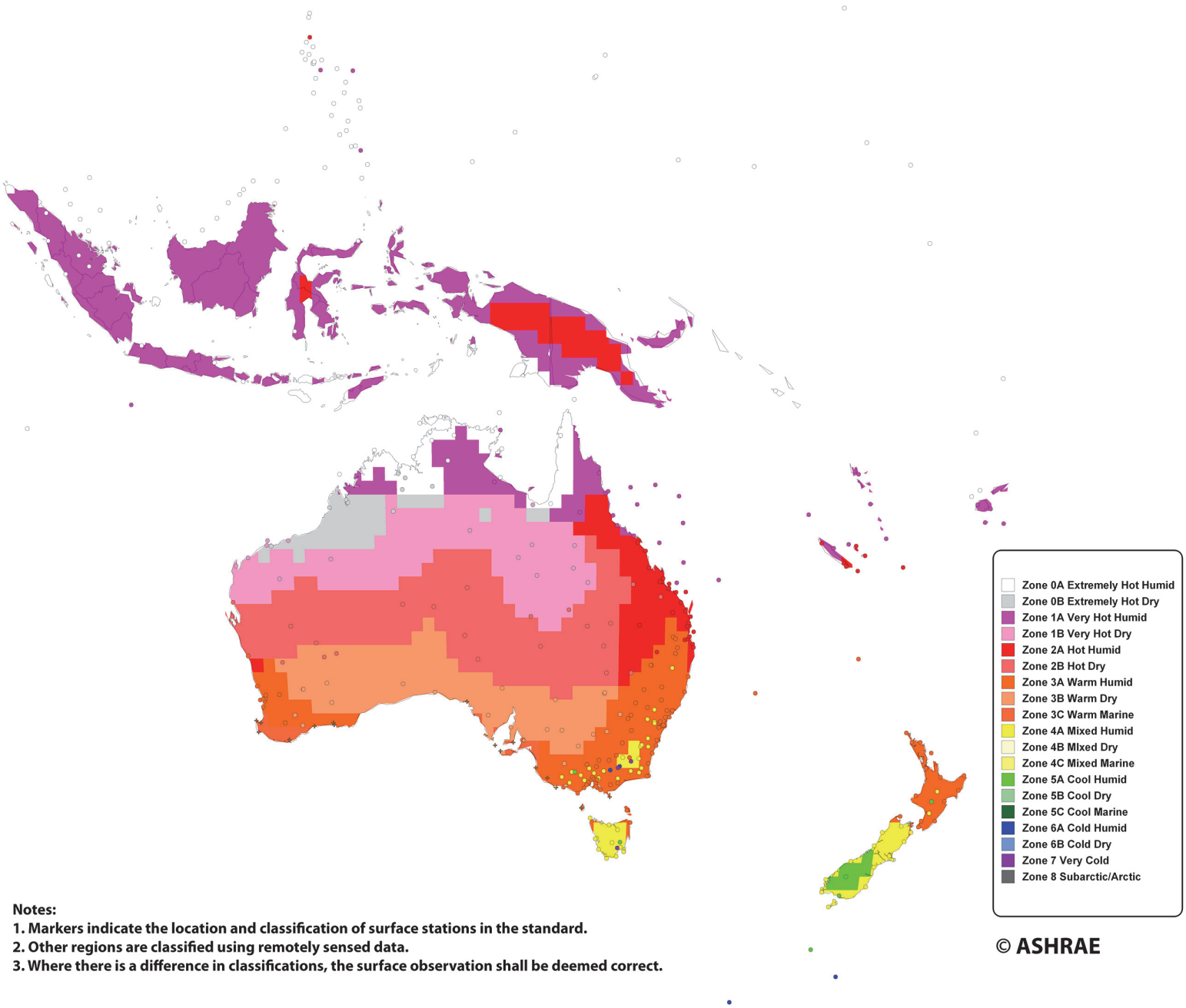

Notes:
1. Markers indicate the location and classification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a difference in classifications, the surface observation shall be deemed correct.

FIGURE C-6 Oceania climate zones maps.

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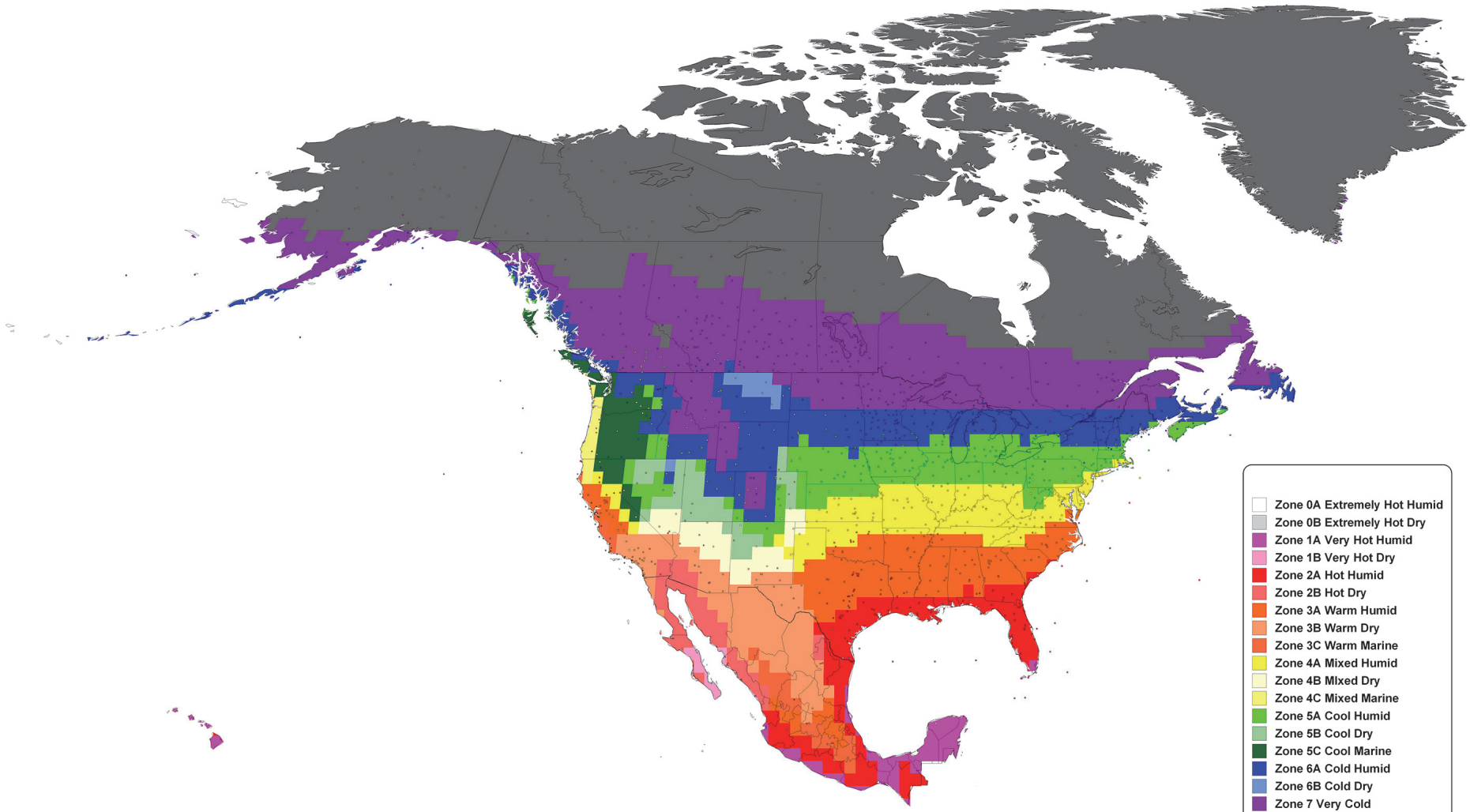

Notes:

1. Markers indicate the location and classification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a difference in classifications, the surface observation shall be deemed correct.

FIGURE C-7 North America climate zones maps.

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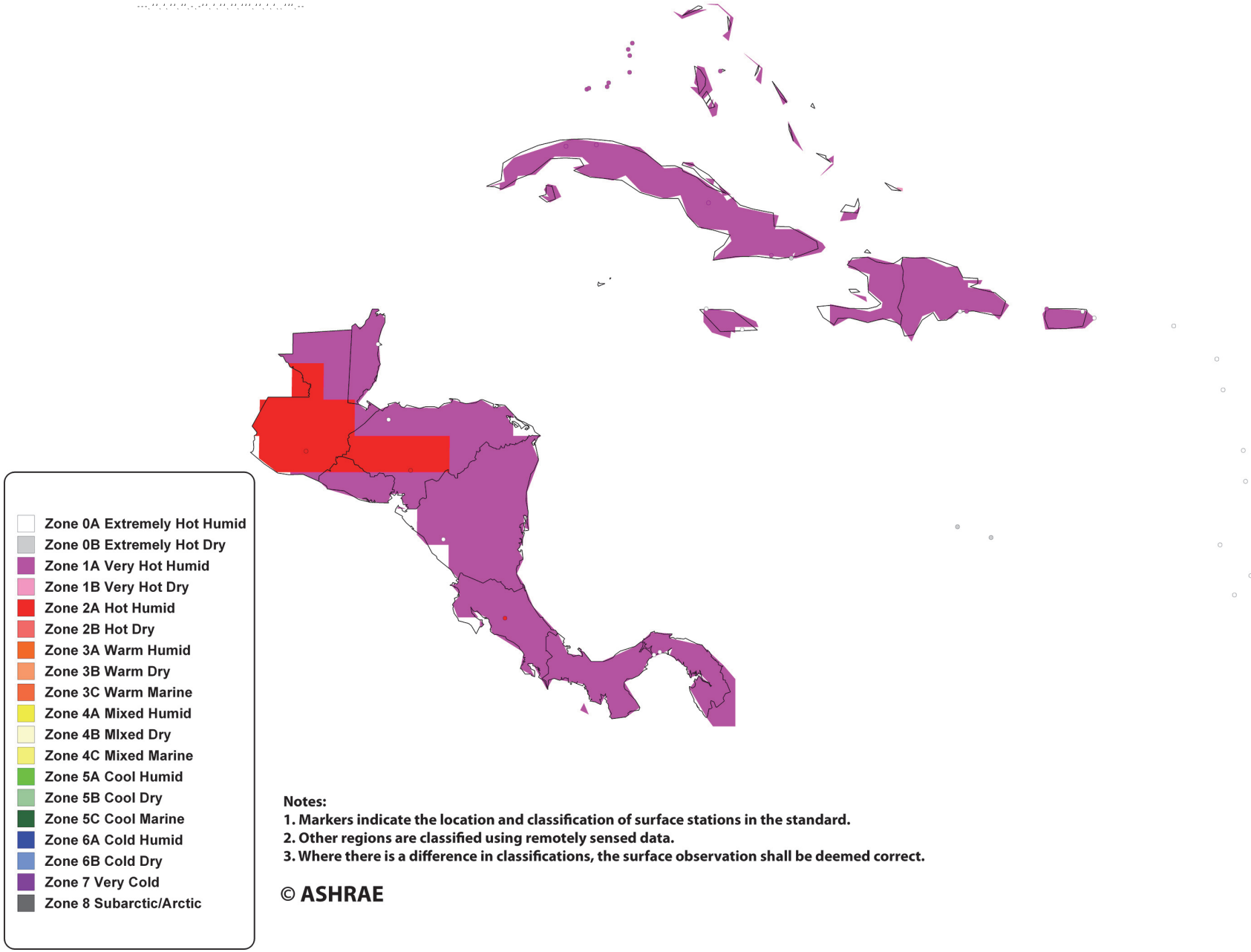

FIGURE C-8 Central America and Northern Caribbean climate zones map.

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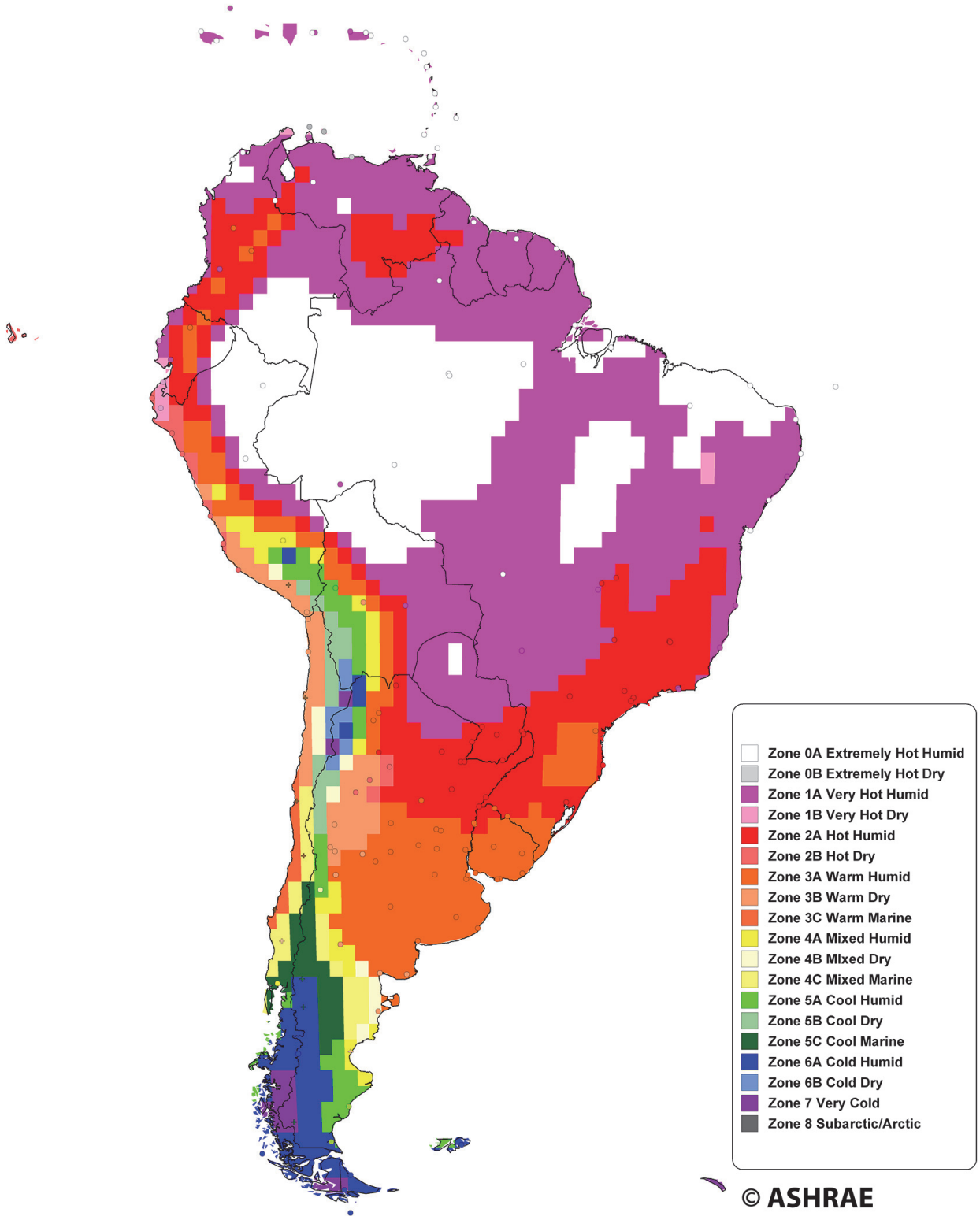

Notes:

1. **Markers indicate the location and classification of surface stations in the standard.**
2. **Other regions are classified using remotely sensed data.**
3. **Where there is a difference in classifications, the surface observation shall be deemed correct.**

FIGURE C-9 South America and Southern Caribbean climate zones map.

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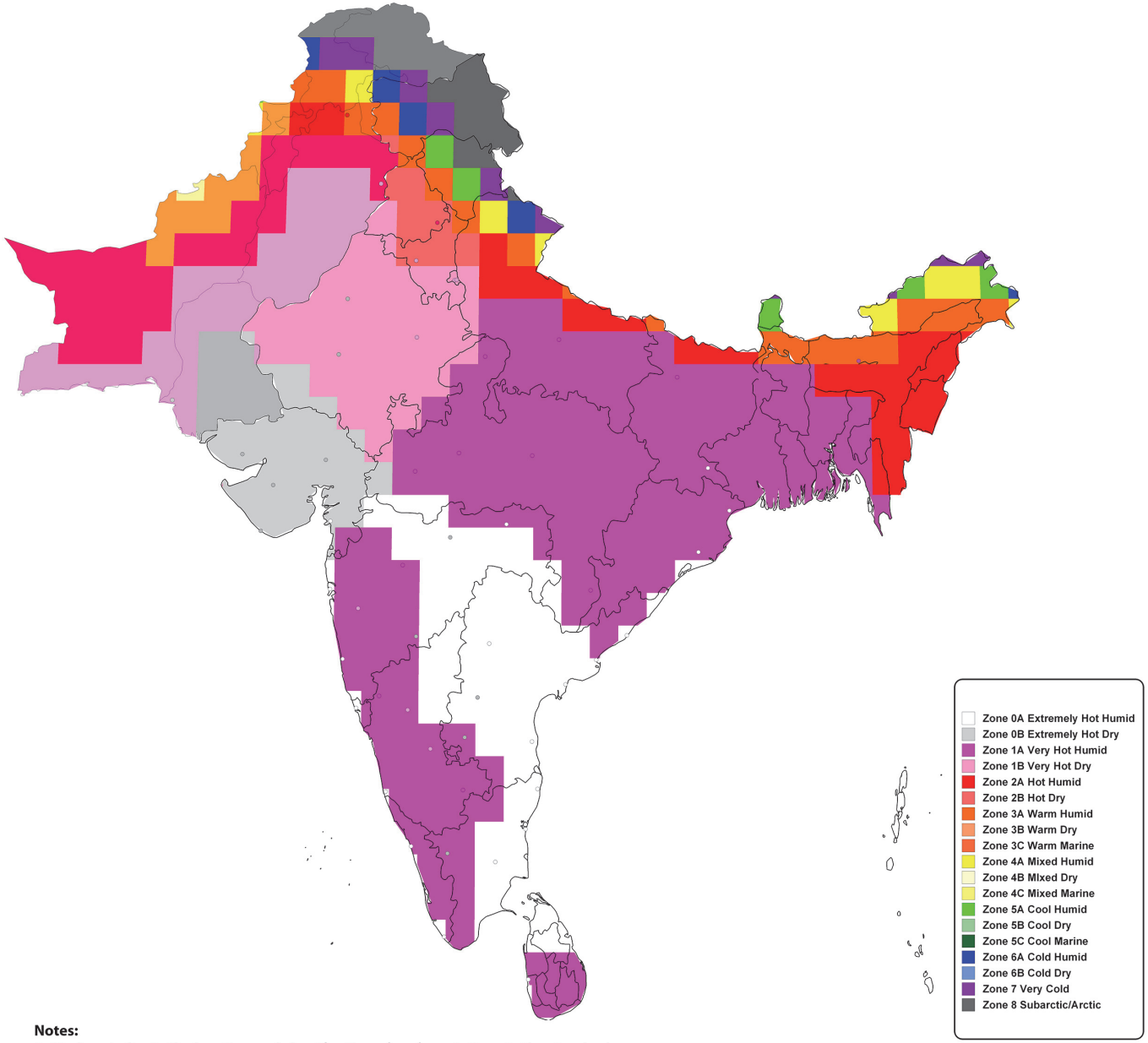

Notes:
1. Markers indicate the location and classification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a difference in classifications, the surface observation shall be deemed correct.

FIGURE C-10 Bangladesh, India, Pakistan, and Sri Lanka climate zones map.

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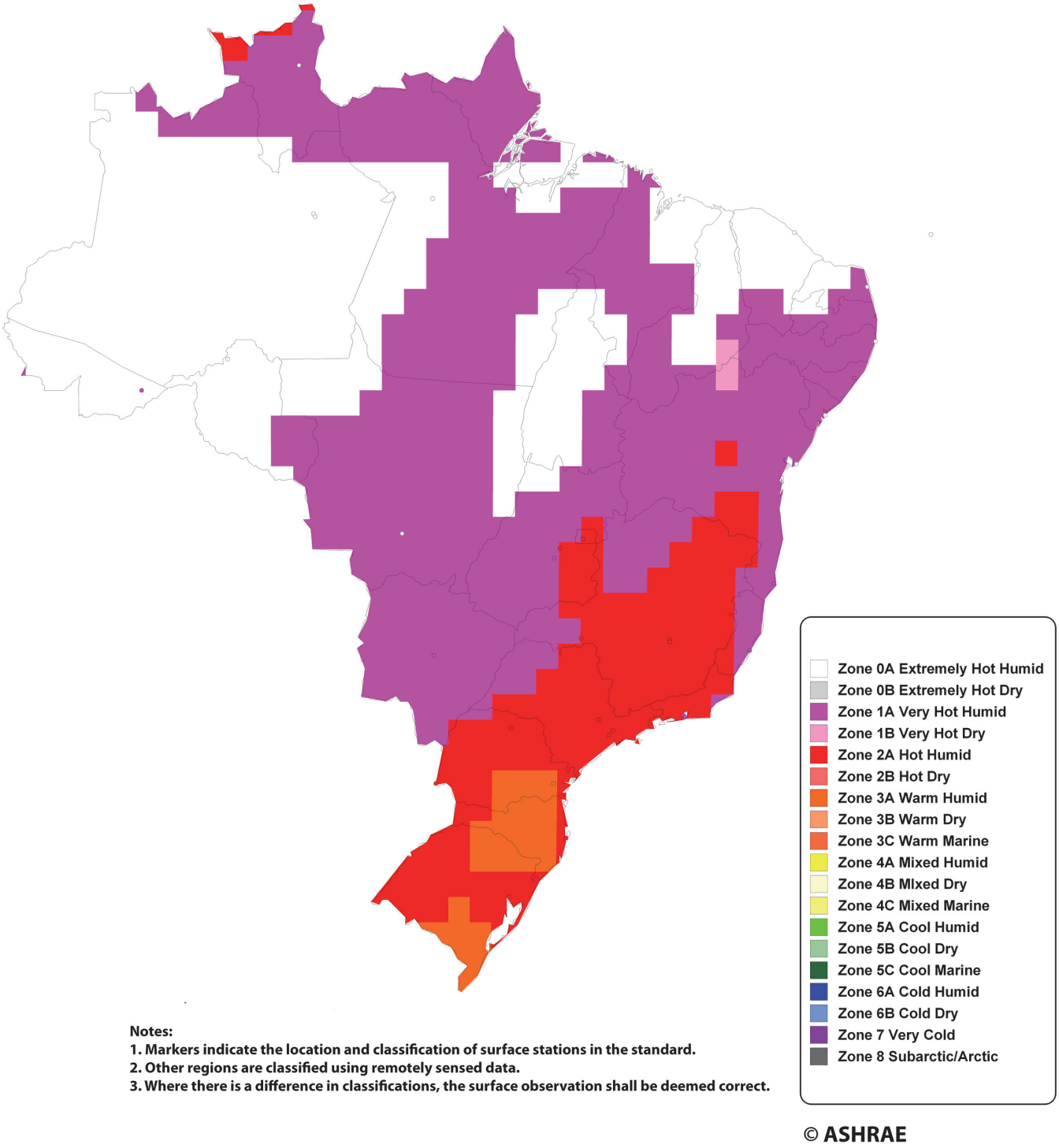

FIGURE C-11 Brazil climate zones map.

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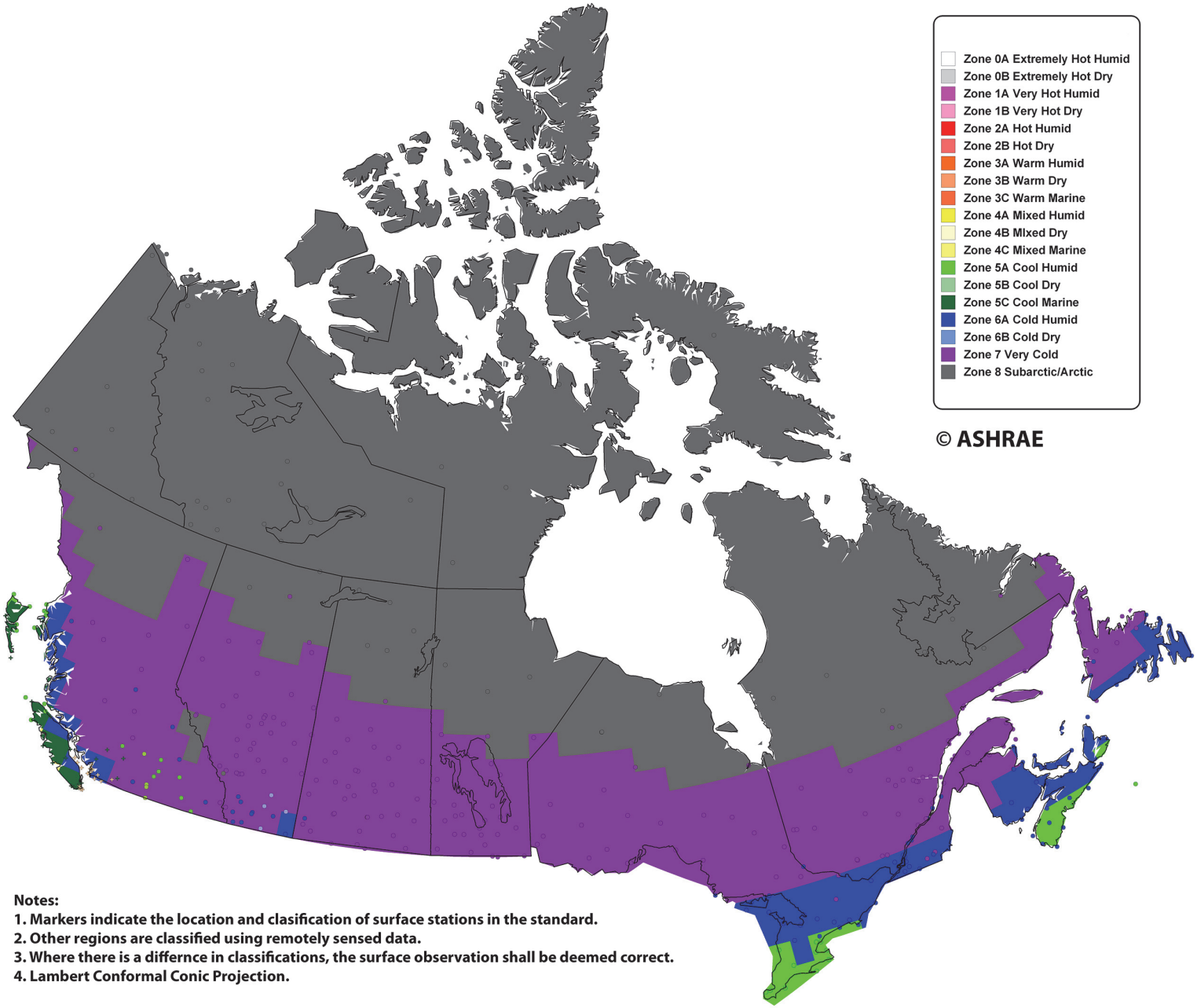

Notes:
1. Markers indicate the location and clasification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a differnce in classifications, the surface observation shall be deemed correct.
4. Lambert Conformal Conic Projection.

FIGURE C-12 Canada climate zones map.

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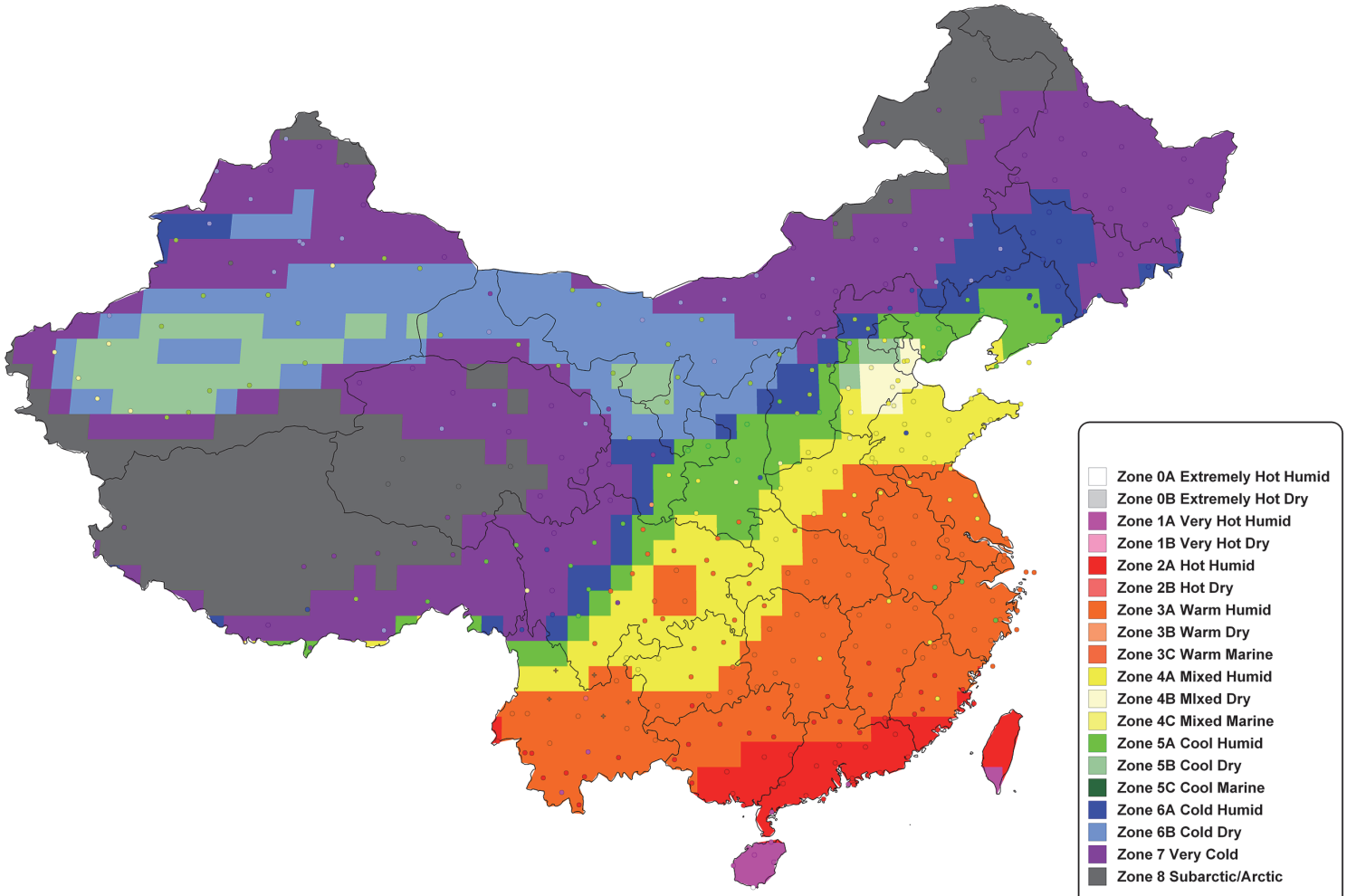

Notes:
1. Markers indicate the location and clasification of surface stations in the standard.
2. Other regions are classified using remotely sensed data.
3. Where there is a diference in classifications, the surface observation shal be deemed correct.

FIGURE C-13 China climate zones map.

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Notes:

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3. Where there is a difference inclassifications, the surface observation shall be deemed correct.
4. Lambert Conformal Conic Projection.

FIGURE C-14 Russia climate zones map.

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INFORMATIVE APPENDIX D
ADDENDA DESCRIPTION INFORMATION

ANSI/ASHRAE Standard 169-2013 incorporates ANSI/ASHRAE Standard 169-2006 and Addenda a and b to ANSI/ASHRAE Standard 169-2006. Table D-1 lists each addendum and describes the way in which the standard is affected by the change. It also lists the ASHRAE and ANSI approval dates for each addendum.

TABLE D-1 Addenda to ANSI/ASHRAE Standard 169-2006

Addendum	Section(s) Affected	Description of Changes*	Approval Dates: • Standards Committee • ASHRAE BOD • ANSI
a	Table B1; Table B3; Table C1; Table C3	Addendum ah to ANSI/ASHRAE/IESNA Standard 90.1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings, added climatic data for seven new locations: Washington DC Reagan Washington National Airport, Virginia and six island locations in the Pacific Ocean. These data are included in Tables C-1 and C-3 of this addendum to ANSI/ASHRAE Standard 169-2006. Since ANSI/ASHRAE Standard 169-2006 was based on ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings, it contained only a single location for China in Tables B-3 and C-3. (Standard 169-2006 Table A-3 contains climatic conditions for 385 locations in China and 30 locations in Taiwan.) This addendum adds climatic data for China (368 locations) and Taiwan (38 locations) in Tables B-3 and C-3. These changes were originally proposed in 2005 as Addendum o to Standard 90.1-2004 and Addendum h to ANSI/ASHRAE Standard 90.2-2004, Energy-Efficient Design of Low-Rise Residential Buildings. Errors in the data for locations in Mexico were also identified in proposed Addendum o to Standard 90.1-2004 and proposed Addendum h to Standard 90.2-2004. This addendum provides corrected values for those locations in Table C-3. This addendum also has minor typographical changes from the above addenda to make the locations and countries more consistent with the data in Standard 169-2006 and the 2005 ASHRAE Handbook--Fundamentals. All other climate data in Tables B-1, B-3, C-1, and C-3 remain unchanged.	June 24, 2006 June 29, 2006 June 30, 2006
b	Complete revision of Standard 169-2006	This standard was created to provide a comprehensive source of climate data for those involved in building design. This standard has been established to provide a variety of climatic information used primarily for the design, planning, and sizing of buildings' energy systems and equipment. It is anticipated that the information in this standard will represent a valuable resource available for referencing in building design standards. The information presented in this standard has been compiled from the 2009 ASHRAE Handbook—Fundamentals, Chapter 14, Climatic Design Information, and other data developed specifically for this standard from ASHRAE 1453-RP, Updating the ASHRAE Climatic Data for Design and Standards. The new data include extensive monthly design conditions. In this addendum, the data and tables have been completely revised and updated. This is a complete revision of Standard 169-2006 and therefore the changes are not shown in underline and strikethrough. An additional climate zone 0 with humid (0A) and dry (0B) zones has been added. The standard includes data for 5,564 locations throughout the world.	September 26, 2013 November 8, 2013 November 13, 2013

* These descriptions may not be complete and are provided for information only.

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Proposed changes must be submitted to the MOS in the latest published format available from the MOS. However, the MOS may accept proposed changes in an earlier published format if the MOS concludes that the differences are immaterial to the proposed change submittal. If the MOS concludes that a current form must be utilized, the proposer may be given up to 20 additional days to resubmit the proposed changes in the current format.

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Use the appropriate file format for your word processor and save the file in either a recent version of Microsoft Word (preferred) or another commonly used word-processing program. Please save each change proposal file with a different name (for example, "prop01.doc," "prop02.doc," etc.). If supplemental background documents to support changes submitted are included, it is preferred that they also be in electronic form as word-processed or scanned documents.

For files submitted attached to an e-mail, ASHRAE will accept an electronic signature (as a picture; *.tif, or *.wpg) on the change submittal form as equivalent to the signature required on the change submittal form to convey non-exclusive copyright.

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1791 Tullie Circle, NE
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Affiliation:

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3. Page number and clause (section), subclause, or paragraph number:

4. I propose to: *(check one)*

[ ] Change to read as follows
[ ] Add new text as follows
[ ] Delete and substitute as follows
[ ] Delete without substitution

Use underscores to show material to be added (added) and strike through material to be deleted (~~deleted~~). Use additional pages if needed.

5. Proposed change:

6. Reason and substantiation:

7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified.

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POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the standards and guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive technical committee structure, continue to generate up-to-date standards and guidelines where appropriate and adopt, recommend, and promote those new and revised standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating standards and guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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About ASHRAE

ASHRAE, founded in 1894, is an international building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration, and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow's built environment today.

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